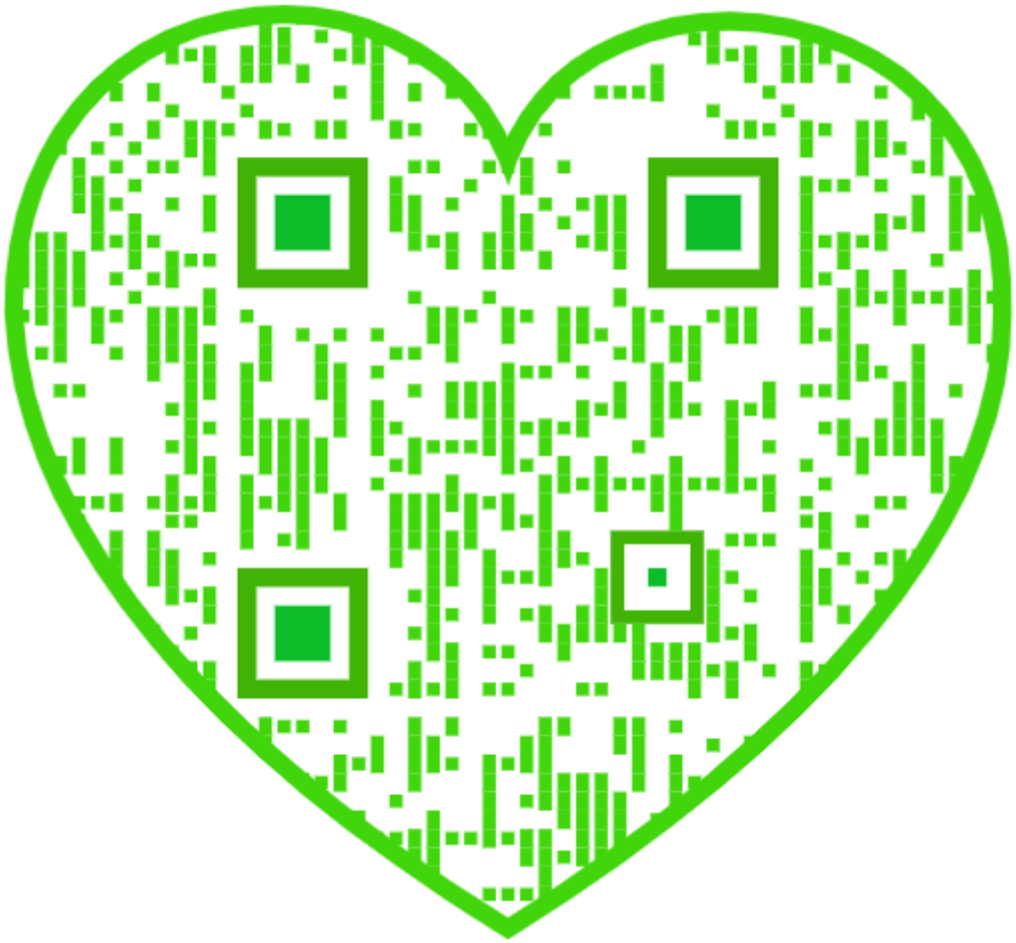
DOMESTIC MEDICINE



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UNITED STATES OF AMERICA.

A COMPENDIUM OF

DOMESTIC MEDICINE

AND HEALTH ADVISER

CONTAINING

A Statement of the Modes of Curing the Diseases to which Man is liable; and Directions in case of Accidents on the Road or at Sea;

WITH

A full Account of Epidemic Cholera, of Dyspepsia, and of Sick-Headache; their Causes, Cure and Prevention;

AND

A popular Description of the Human Teeth; their Formation, Diseases and Treatment.

BY

HENRY McMURTRIE, M. D.

PUBLISHERS

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PREFACE.

THE practice of medicine should be conducted on those general principles, which are drawn by sober experience, from a careful observation of the effects of remedies upon the human body, in its different stages of disease. These great leading principles are few, short, and easily understood; they are applicable in every disease to which the human body is subject, although they may not always prove equally successful. It is the judicious use of them which constitutes the great merit of the enlightened physician.

In a matter of such immense importance to every individual, it would seem necessary then, that these principles be as widely disseminated, and in as plain words as possible, in order that every one may know and understand them. To do this, is every man's duty, as well as interest; for, independently of his own life, which is frequently jeoparded by the want of such knowledge, that of his neighbour is often by accident placed in his hands.

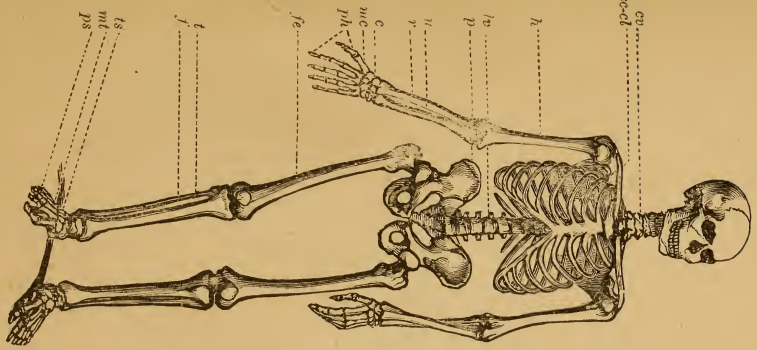
To some particular sections of our extensive country, and to travellers especially, this consideration is of the utmost importance. I have known a considerable district in one of our western states, which contained but one doctor, and him I have met on his way to his patients by eight o'clock in the morning so drunk, as to render it necessary to lift him into his gig! Sometimes there is no physician of any kind to be obtained; or if there be, after waiting until the complaint has got to a height that baffles all remedies, he arrives in a state similar to that described! What becomes of the sick, under such circumstances?

It was on some such occasion, that the necessity of a cheap, plain work, like the present, first suggested itself to my mind. Those books that have been intended for like purposes, seem to me too bulky, too learned, or too expensive. In this work, I have endeavoured within a small compass, and in as plain a manner as possible, to lay down such rules and give such directions, as will enable every one who reads them to adapt to his (or his friend's) case, the plan of treatment most proper for it.

As these pages are intended exclusively for the use of men, no diseases *peculiar* to women or children are treated of in it.

To the various writers to whose works I am indebted, I have made no reference; I have, however, made free use of the most valuable of such as are considered *authorities*, and in some instances have adopted their very words.

The Publisher has issued "PLAIN MEDICAL TALKS TO WOMEN"—intended as a companion to the present work. See advertisement of title and contents at the end of this volume.



cv, cervical vertebræ. *sc-cl*, scapula and clavicle. *h*, humerus. *lv*, lumbar vertebræ. *p*, pelvis. *u*, ulna. *r*, radius. *c*, carpus. *mc*, meta-carpus. *ph*, phalanges. *fe*, femur. *t*, tibia. *f*, fibula. *ts*, tarsus. *mt*, metatarsus. *ps*, phalanges.

CONTENTS.

PART FIRST.

INTRODUCTION 15
1. General Rules for Treating Diseases . 15
2. Hints to Travellers in Health . . 17
3. Hints to Invalids Travelling . . . 21
DIVISION OF DISEASES 23

Chapter I.

Of Fevers.

Of the Pulse 25
Of Fever 26
Simple Inflammatory Fever . . . 27
Intermittent, or Fever and Ague . 28
Remittent Fever 30
Bilious Fever 30
Typhus, or Low Nervous Fever . . 32
Putrid Fever 34
Hectic Fever 36

Chapter II.

Of Diseases, commencing in, and chiefly confined to, particular parts.

Inflammation of the Brain 37
Headache 38
Inflammation of the Eye 38
Dimness of Sight 39

Night Blindness 40
Inflammation of the Ear 40
Bleeding from the Nose 41
Polypus 41
Cancer of the Lip 42
Mercurial Ulcers in the Mouth 42
Ulcers and Pimples on the Tongue . . . 42
Cancer of the Tongue 43
Venereal Ulcers 43
Enlargement of the Uvula 43
Swelling of the Tonsils 44
Inflammatory Sore Throat 44
Putrid Sore Throat or Diphtheria . . 45
Strictures in the Throat 46
Catarrh, or Cold 47
Asthma 47
Pleurisy 48
Spitting of Blood 49
Consumption 49
Palpitation of the Heart 50
Dropsy of the Chest 51
Inflammation of the Stomach . . . 52
Cramp in the Stomach 53
Hiccoughs 53
Heart-Burn 54
Indigestion 54
Vomiting of Blood 56
Inflammation of the Liver 56
Jaundice 57
Ague Cake 59
Inflammation of the Intestines 59
Cholera Morbus, or Vomiting and Purging . 60
Dysentery 61
Diarrhœa 63
Colic 64
Painter's Colic 65
Worms: the White Thread Worm—the Round Worm—the Tape Worm 66
Inflammation of the Kidneys 68
Gravel 68

Inflammation of the Bladder 70
Difficulty of Urine 70
Suppression of Urine 71
Incontinency of Urine 72
Stone in the Bladder 72
Diabetes, or an Immoderate Flow of Urine . 73
Dropsy of the Abdomen 73
Tympany 75
Gonorrhœa 75
Gleet 76
Involuntary Emissions 77
Strictures 77
Syphilis 77
Cancer of the Penis 78
Venereal Warts 79
Mercurial Disease 79
Dropsy of the Scrotum 79
Enlarged Spermatic Vein 80
Cancer of the Testicle 80
Impotency 81
Gout 81
Inflammatory Rheumatism 82
Chronic Rheumatism 83
Hip-Joint Disease 84
Dropsy of the Knee Joint 84
White Swelling 85
Pieces of Cartilage in the Joints 85
Scrofula, or King's Evil 86
Inflamed Glands 86
Scirrhus 87
Cancer 87
Goitre 88
Fainting 88
Apoplexy 88
Stroke of the Sun 89
Epilepsy 90
Palsy 91
Tetanus, or Cramp 91
Locked-Jaw 92
Painful Affection of the Nerves of the Face . 93

Angina Pectoris 94
Dance of St Vitus 95
Scarlet Fever 95
Erysipelas, or St Anthony's Fire . . . 96
Mercurial Erysipelas 98
Measles 99
Chicken-Pox 100
Cow-Pox 100
Small-Pox 101
Itch 103
Herpes 103
Scald Head 104
Ring Worm 105
Nettle-Rash 105
Blotched Face 106
Scurvy 106
Of Tumours 108
Of Ruptures: Reducible—Irreducible—Strangulated 108
Aneurism 111
Tumours: Fleshy—Steatomatous—Encysted . 112
Ganglion 113
Boils 114
Carbuncle 114
Whitlow, or Felon 115
Piles: Blind—Bleeding 115
Of Abscess 116
Psoas Abscess 117
Of Fistula 118
Of Ulcers: Inflamed—Fungous—Sloughing—Indolent—Carious—Scorbutic—Scrofulous—Venereal 119

Chapter III.

Of Accidents.

General Directions 122
Of Contusion 123
Of Sprains 124
Concussion of the Brain 124

Compression of the Brain 125
Of Wounds 125
To Stop the Bleeding 125
Incised Wounds 127
Punctured Wounds 129
Contused Wounds 129
Poisoned Wounds, from Bites of Mad Dogs, Rattle-Snakes, &c. 130
Stings of Bees and Wasps, Bites of Mosquitoes, &c. 131
Wounds of the Limbs, &c. 131
Of the Ear, Nose, &c. 131
Of the Scalp 131
Of the Throat 132
Of the Chest 132
Of the Abdomen 132
Of Joints 133
Of Tendons 133
Of Fractures 134
Of the Bones of the Nose 134
Of the Lower Jaw 134
Of the Collar Bone 135
Of the Arm 135
Of the Bones of the Fore-Arm . . . 136
Of the Wrist, &c. 136
Of the Ribs 136
Of the Thigh 137
Of the Knee-Pan 137
Of the Leg 138
Of the Bones of the Foot . . . 138
Of Dislocations 139
Of the Lower Jaw 140
Of the Collar Bone 140
Of the Shoulder 140
Of the Elbow 141
Of the Wrist, Fingers, &c. 141
Of the Thigh 142
Of the Knee-Cap 142
Of the Leg 142
Of the Foot 142

Of Compound Accidents 143
Of Amputation 143
Of Suspended Animation 143
From Drowning 143
From Cold 145
From Hanging 145
From Foul Air 145
Of Swallowing Poisons 146
Acids 146
Alkalies 147
Mercury 147
Arsenic 147
Copper 148
Antimony 148
Salts of Tin 148
Salts of Bismuth, Gold and Zinc . . 148
Lunar Caustic 148
Salt-Petre 149
Sal Ammoniac 149
Liver of Sulphur 149
Phosphorus 149
Spanish Flies 149
Powdered Glass 150
Lead 150
Opium, or Laudanum 150
Mushrooms 151
Tobacco, Hemlock, Night-Shade, Spurred Rye 151
Poisonous Fish 151
Foreign Bodies in the Throat 151
Of Burns and Scalds 152
Of Mortification 153
Directions for Bleeding 154
Directions for Passing Catheters--Bougies 154, 155

Chapter XV.

Prescriptions referred to in the work.

Prescriptions . . . . . 156—160
Mixtures, Saline—Effervescing 156

Wine or Vinegar Whey 157
Scudamore's Lotion for Gout 159
Poultices of various kinds 160
Clysters of various kinds 160
Hartshorne's Decoction of Spanish Flies in Spirits of Turpentine 160

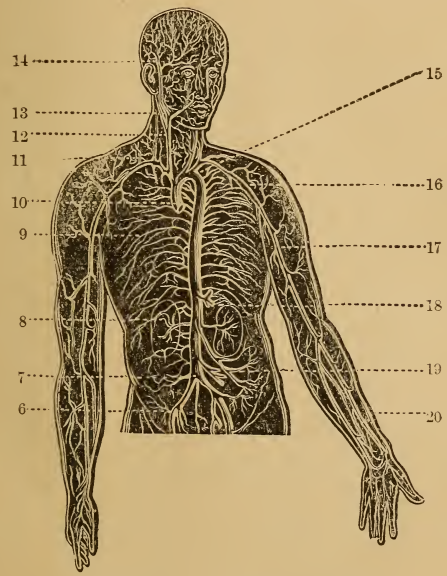
PART SECOND.

EPIDEMIC, OR ASIATIC CHOLERA . . 163
Causes 164
Predisposing and Exciting Causes . 164
Prevention 165
Symptoms 167
1. The Stage of Diarrhœa . . . 167
2. The Stage of Spasm . . . 168
3. The Stage of Commencing Collapse 168
4. The Stage of Confirmed Collapse . 169
Treatment in the different Stages . 169

DYSPEPSIA, OR INDIGESTION . . . 174
Causes 175
Symptoms 178
Prevention 180
Treatment 181
1. Costiveness 183
2. Flatulence 185
3. Violent Pain of Stomach and Bowels 185
4. Nausea and Vomiting . . . 186
5. Constant Soreness and Pain of the Stomach 186
General Remedies 187
1. The Warm Bath and Frictions . 187
2. Mr Halsted's Method . . . 188
3. Mineral Waters 189
4. Tonics and Bitters . . . 189
Conclusion 190

SICK-HEADACH 191
Symptoms 192
Medicines 193
Diet 196
Drinks 203
Exercise 206
Change of Air 207
Other Cautions 207
Treatment of an Attack of the Complaint . 210

THE TEETH 212
Structure, Number, Form and Articulation 213
Formation of the Teeth 218
1. Formation of the Milk Teeth . . 218
2. Formation of the Permanent Teeth 220
Shedding the Teeth 220
The First Dentition 223
Diseases attending Difficult Dentition . . 226
Diseases of the Teeth 229
Caries or Rottenness 230
Diseases of the Fangs of the Teeth . 233
Toothach 234
Tartar, or Scurvy of the Teeth . . 236
Diseases of the Alveolar Processes . . 238
Diseases of the Gums 240
Inflammation and Sponginess of Gums 240
Gum-Boils 241
Tumours of the Gums 241
Cleaning the Teeth 242
Excellent Tooth Powder . . . 245
Operations on the Teeth 245
Extraction of the Temporary Teeth, when Diseased 245
Lancing, or Cutting the Gums, at the time of Teething 246
Filing or Sawing the Teeth . 248
Filling Teeth with Gold or other Metals 249
Scaling the Teeth, or Removal of Tartar 250
Extracting Teeth 250
Artificial Teeth 252



ARTERIES OF THE HUMAN BODY.

6. Iliac.—7. Sacral.—8. Renal.—9. Intercostal.—10. Aorta. 11. Subclavian.—12. Carotid.—13. Vertebral.—14. Temporal.—15. Curvature of the Aorta.—16. Axillary.—17. Brachial.—18. Cœliac.—19. Mesenteric arteries.—20. Radial.

PART FIRST.

A STATEMENT

OF THE MODES OF CURING THE DISEASES
TO WHICH MAN IS LIABLE;

AND

DIRECTIONS

FOR HIS CONDUCT IN CASE OF ACCIDENTS
ON THE ROAD OR AT SEA.

INTRODUCTION.

GENERAL RULES FOR THE TREATMENT OF DISEASES.

ALL diseases might, with great propriety, be arranged under three heads, viz.

Inflammatory diseases, or those attended by increased action, *as shown* by a quick, full, hard or strong pulse,—great thirst and heat,—white, or red tongue,—flushed face,—bloodshot eye, &c. &c.

Diseases of debility, accompanied and marked by a small, soft, feeble, slow, or intermitting pulse,—a shining white or dark tongue,—languor and weakness,—cold clammy or burning skin, and an *internal* sense of sinking.

Diseases either of increased or diminished action, producing particular effects, and requiring peculiar remedies.

Although I have not thought proper, (for reasons presently to be mentioned) to adopt this arrangement, I have been induced to glance at it, as giving rise to those great leading principles or rules, which should govern us in the management of all diseases, and which, if attended to, will be followed by consequences as beneficial as the nature of the circumstances will admit.

RULE I.

In every complaint, whatever it may be called, if you find the pulse quick, hard, full, and strong,—the head ache,—tongue foul,—skin hot, or those marks

which denote it of an inflammatory nature, reduce it by purging,—low diet,—drinking plentifully of cold water and lemonade,—rest, &c.

RULE II.

If on the contrary, the pulse be small, soft, feeble and intermitting,—the tongue dark, and great debility or weakness is evident, reverse the whole plan, the diet must be generous and nourishing,—the bowels opened with *gentle* laxatives,—and the strength supported by bark, sulphate of quinine, wine and tonics of various kinds.

RULE III.

If in addition to those symptoms mentioned in the second rule, the tongue be covered with a black coat,—foul dark looking sores form about the gums and insides of the cheeks,—the breath be offensive, &c. the same class of remedies is to be vigorously employed, with a free use of acids and other antiseptic articles

RULE IV.

Severe local pains, as in the head, side, &c., require sometimes the use of purging, and blisters to the part.

RULE V.

Incessant and earnest entreaties on the part of the sick, for any particular article of diet, *if steadily persevered in*, may be safely indulged, whether the use of it agrees or not with our preconceived ideas on the subject.

RULE VI.

In all fevers, where the pulse is quick, full and strong,—the skin burning to the touch, and there is

no perspiration, dash cold water over the head and shoulders of the patient, wipe him dry and put him to bed. If in consequence of this, a chill be experienced, and the pulse sink, give warm wine, &c. and omit the water for the future. Should a pleasant glow, over the whole frame, follow the affusion, and the patient feel relieved by it, repeat it as often as may be necessary

RULE VII.

Observe carefully, the effects of various articles of food, as well as physic, upon your own body, and choose those which experience proves to agree best with you. It is a vulgar but true saying, that "What is one man's meat, is another's poison."

RULE VIII.

Keep a sick room always well ventilated. Plenty of fresh air is an important remedial agent in all diseases.

HINTS TO TRAVELLERS IN HEALTH.

THE sudden changes of weather, which so particularly characterize the climate of the United States, render a supply of flannel to be worn next the skin a matter of much consequence to the health and comfort of the traveller, who is more exposed than others to the morning and evening damps, as well as the meridian heat.

FLANNEL.

As a general preservative of health, I know of no habit more valuable than this; the disagreeable irritation of the skin it occasions at first, soon wears off

and it then becomes pleasant. The objections to it during the summer months, are more specious than solid. Accustomed to be cased in it from head to foot, in the East and West Indies, as well as in the southern parts of America, I have uniformly had occasion to remark that I suffered *less* from the heat than such of my friends as wore none. This is now generally admitted to be the consequence by scientific men, and is easily accounted for on principles, with which my limits do not permit me to meddle. I merely mention the fact, and again seriously recommend every one who wishes to preserve his health in this climate, to have immediate recourse to flannel, and never to leave it off.

MEDICINES.

A phial of laudanum, one of strong essence of peppermint, with a bottle of brandy, and a box of vegetable cathartic pills, should always have a corner in every traveller's trunk: they take up but little room, and should he proceed without them, a few days, perhaps hours, may give him serious cause to regret it.

While in a high healthy country, there is no absolute necessity for observing the following rules, which become indispensable while in a low, marshy, and consequently a sickly one. *Never leave your sleeping place in the morning, until the fog and damp have been dispersed by the sun;* if, however, you are not master of your own movements, and cannot avoid it, always endeavour to have a cup of coffee and a crust of bread before you set out; this can generally be had, by speaking to the landlord the preceding evening. If you are disappointed, a glass of wine with a few drops of peppermint and a little sugar in it, will answer; and in default of the wine, spirits of any kind prepared in the same way, with or without *bitters*. By these means your stomach will be fortified, and one great avenue to disease be blocked up, always

recollecting that it is as a medicine you are to take it, not to gratify your palate. The practice is unfortunately too apt to be continued, when all necessity for it has ceased, and *mint julep*, like some other good things that are abused, have wrecked many an honest and good man: coffee should always be preferred if it can be obtained.

BEDS.

To mention the propriety of examining *closely*, the beds you are to sleep in, may at first sight seem superfluous, to say nothing more of it. It is not, however, the refreshing luxury of clean sheets, that is the principal inducement to caution, but the great risk you run of contracting disorders by sleeping in dirty ones. I have known a want of care in this point, punished by a severe disease. Many troublesome and disgusting diseases of the skin, are communicated in this way, without any idea being entertained of their origin. For my part, a great coat and a clean plank, a sofa or three chairs, would be preferred to running any risk whatever.

TOWELS AND SOAP.

Every one should carry towels and soap with them when travelling, for the simple reason that at many stopping-places no soap is to be found, and towels are so scarce that many persons use the same; which is a pernicious habit, as many contagious diseases of the skin and eyes have been transmitted in this way.

WATER.

Change of water is very apt to produce some little disturbance in the bowels, and this to a stranger is one of the sure marks of being in a lime-stone coun

try. If it act gently, it need not be minded, if otherwise, mix wine, porter, or brandy with it, or omit the use of it altogether, for a few days, when it may be gradually resumed; in this way its effects are diminished.

COLD.

To prevent as much as possible any danger from frost, while travelling in excessively cold weather, having well cased your whole body (and feet in particular) in warm clothing, avoid approaching the fire, and the use of spirits, or hot drinks of every description. When you stop on the road, instead of seating yourself by the chimney and calling for liquor, walk about in the open air as rapidly as possible, and if you are thirsty, take a glass of cider or cold water. Three men (with one of whom I am personally acquainted) set out from Boston for Upper Canada, during the middle of a very severe winter, each one driving his own sleigh; two of them were in the habit of stopping at every tavern they came to, warming their feet and drinking freely of *hot toddy*. The other never entered a house, except for his meals or to sleep; while his horse rested, he stretched his legs, and when he was thirsty he partook of the same element with his beast. The consequence of this was, that out of the three, he was the only one who arrived at his journey's end uninjured. One of his companions had his feet so badly frost-bitten, that he lost them both, and the other was taken out of his sleigh, at the door of a tavern, where his horse *naturally* stopped, frozen to death! If, notwithstanding all your care, you become much affected by the cold, beware of going to sleep: no matter how strong the inclination may be, resist it for your life—it is the sleep of death!

NIGHT AIR.

On retiring, it is well to close the window over the bed. One of the most fruitful sources of sick-

ness, is found in the night air, that is generally damp, and loaded with poisonous vapours, and which, from the relaxed state of the body during sleep, is more apt than at any other time to produce the most mischievous effects.

☞ Never let false delicacy, or any other cause, prevent you from emptying the bladder as often as you feel the inclination: a painful and lingering, sometimes an *incurable* disease arises from neglecting this call of nature.

HINTS TO INVALIDS TRAVELLING.

Although the preceding directions apply to all travellers, they should be more particularly studied and observed by invalids who, while travelling by land, either for the restoration of their health, or from necessity, in stages or carriages, will find an advantage in observing the following rules.

RULE I.

Never commence your journey in the morning until you have breakfasted and emptied the bowels, or endeavoured to do so. To obtain the wished for result, make it a regular practice to solicit the evacuation directly after your meal.

RULE II.

During the summer, never pursue your journey, if you can avoid it, in the heat of the day: it is better to borrow an hour or two from the morning, and one from the evening, than to risk the excitement liable to be produced by a broiling sun.

RULE III.

Make short stages; always remembering that *ever*

cise should never be pushed to *fatigue*—the latter is as injurious, as the former is beneficial.

RULE IV.

Be careful to have no ligatures about your body—wear your cravat and garters loosely tied, and let all your clothing be easy. The flannel shirt is indispensable.

RULE V.

Always have an ample cloak in the carriage; early in the morning and in the evening, even of summer days, you may find occasion to use it with pleasure and profit.

Always have a complete suit of winter clothing in your trunks, although you be travelling in the month of July: if the weather becomes cool, on with your woollens,—stockings included. Inattention to the simple rule of adapting the clothing to the temperature of the air in its extreme changes, kills hundreds yearly.

RULE VI.

Never hesitate a moment to comply with the calls of nature; much mischief is occasioned by deferring these evacuations. It is better to be accused of a want of delicacy, than to have a suppression of urine or a fever and headache.

RULE VII.

This is the golden rule, and is of high authority. *Keep your body open, your feet dry and warm, and your head cool!!*

A

COMPENDIUM

OF

DOMESTIC MEDICINE.

DIVISION OF DISEASES.

It is a matter of no consequence with what particular complaint we begin, since each one is to be described. All systems are artificial and liable to objections, but for the purpose of enabling every one to find out his ailment, and to refer at once to its mode of treatment, I have adopted the following plan. In some points of view it may be exceptionable, but it suits the purpose I intend it for,—the convenience of my reader, who may possibly care as little as I do, whether the arrangement be scientific or not. In the first place, there are such diseases as produce a general disturbance, that is visible throughout the whole body. These are found in fevers.

Simple Inflammatory Fever.
Intermittent, or Fever and Ague.
Bilious Remittent Fever.
Typhus or Low Nervous Fever.
Putrid Fever.
Hectic Fever.

Next we have those whose effects, though extended to the whole body, commence in, and are chiefly confined to, particular parts, such as diseases incident to

1. The Head,	2. Throat,
3. Chest,	4. Stomach,
5 Liver,	6. Intestines,
7 Kidneys,	8. Bladder,
9. Genital Organs,	10. Joints,
11. Nerves,	12. Glands,
13. Cellular Membrane,*	14. Skin, including Tumours, Ulcers, &c.

Lastly, under the title "Of Accidents," will be considered all those unfortunate occurrences, which are daily thinning the ranks of society, which human prudence cannot *always* prevent, and to which all who travel by land or water are more particularly exposed.

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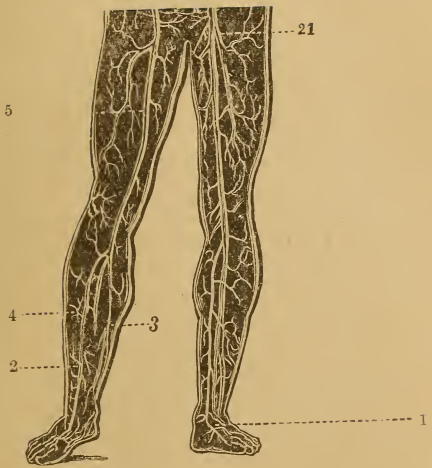
* This is a kind of fatty net-work, lying immediately under the skin, and covering the whole body



ARTERIES OF THE HUMAN EXTREMITIES.

1. Tarsal.—2. Perennal.—3. Posterior tibial.—4. Anterior tibial.—5. Femoral.—21. Ulnar.

CHAPTER I.

Of Fevers: or those diseases which produce a general disturbance throughout the whole body.

OF THE PULSE.

The *pulse* is nothing more than the beating of an artery.* Every time the heart contracts, a portion of blood is forced into the arteries, which dilate or swell to let it pass, and then immediately regain their former size, until by a second stroke of the same organ, a fresh column of blood is pushed through them, when a similar action is repeated. This swelling and contracting of the arteries then constitute the pulse, and consequently it may be found in every part of the body where those vessels run near enough to the surface to be felt. Physicians look for it at the wrist, from motives of convenience.

The strength and velocity of the pulse vary much in different persons, even in a state of perfect health. It is much quicker in children than in adults, and in old men, it grows more slow and feeble, owing to the decreased energy of the heart. The pulse is increased both in strength and velocity by running, walking, riding, and jumping; by eating, drinking, singing speaking, and by joy, anger, &c. It is diminished in like manner, by fear, want of nourishment, melan-

* There are two kinds of blood-vessels in the body: arteries and veins. The arteries carry the blood from the heart to the extremities of the body, where they are connected with the veins which bring it back again. An artery pulsates or beats; a vein does not

choly, excessive evacuations, or by whatever tends to debilitate the system.

In feeling the pulse then in sick persons, allowance should be made for these causes, or what is better, we should wait until their *temporary* effects have ceased.

A full, tense and strong pulse, is when the artery swells boldly under the finger, and resists its pressure more or less; if, in addition to this, the pulsation be very rapid, it is called quick, full, and strong; if slow, the contrary.

A hard, corded pulse, is that in which the artery feels like the string of a violin, or a piece of tightened cat-gut, giving considerable resistance to the pressure of the finger.

The soft, and intermitting pulses, are easily known by their names. In cases of extreme debility, on the approach of death, and in some particular diseases, the artery vibrates under the finger like a thread.

In feeling the pulse, three or four fingers should be laid on it at once. The most convenient spot to do this, as already mentioned, is the wrist, but it can be readily done on the temple,—just before, and close to the ear,—in the bend of the arm,—at the under part of the lower end of the thigh, among the ham-strings, —and on the top of the foot.

OF FEVER.

Fever is, by far, the most common complaint to which the human body is subject. It may be briefly described as a combination of heat,—thirst,—loss of appetite,—weakness, and inability to sleep. It makes its appearance in two ways: either suddenly and violently, or gradually and gently. When it comes on in the first manner, a cold shaking, attended with sickness at the stomach, or vomiting, marks its access: the cold is more severe than in the latter, as is also

the pain in the head, and other symptoms. When its attack is gradual, a feeling of soreness over the whole body, such as is experienced after a hard day's work by one not accustomed to it, shows its approach. Nausea, pains in the head, chills, and more or less heat and thirst soon follow.

As these symptoms vary infinitely in their degrees of violence, the vigour of the treatment to be pursued, must differ accordingly. Thus the same directions that are given for simple inflammatory fever, must be adhered to, in one whose symptoms are lighter, though similar, only there is no necessity for pushing them to so great an extent.

SIMPLE FEVERS.

A fever not due to any one specific cause, lasting from one to ten days.

SYMPTOMS. Chills,—flushed face,—skin hot,—eyes red,—pulse quick, full, strong and regular,—great thirst,—tongue white,—urine high colored and small in quantity,—bowels constipated,—and breathing quick, etc.

CAUSES. Cold,—violent exercise while exposed to the heat of the sun,—intemperance,—improper food,—deranged digestion,—the poison of one of the continued fevers too mild to produce recognizable effects.

DISTINGUISH it from other fevers by the abruptness with which it comes on, by the absence of symptoms peculiar to other fevers and by the rapid recovery.

TREATMENT. Rest in bed in a cool, quiet room, Open the bowels with liquid citrate of magnesia or epsom salts. If there be great pain in the head apply cloths wrung out of cold water, changing them often enough to keep them cold, or place an ice bag partially filled with broken ice on the head. If the heat of the body be excessive and burning to the touch, and there is no perspiration, sponge the entire body

and limbs with tepid or cold water. This is to be performed by removing all clothing, wrapping the body completely in a thick blanket, and applying the sponge between the folds of the blanket, in order to protect from draughts, spending from ten to twenty minutes in the act of sponging; then either remain in blanket until dry, or use towels, after which the clothing and bed covering may be replaced, always practicing care not to wet the clothing or bedding because by so doing a cold might be contracted. There should be no fear of bad consequences from sponging if done in this manner, and it is an infallible and satisfactory means of reducing almost all the different kinds of fever. In addition to the sponging a tablespoonful of the spirits of Mindereri may be taken every two hours. These measures are to be repeated with sufficient frequency to keep the skin moist and as nearly as possible to normal temperature, until the disease is overcome. Moderate doses of quinine should be taken during convalescence. The diet should consist of cool drinks, milk and beef tea.

INTERMITTENT OR MALARIAL FEVER.—FEVER AND AGUE.

Of this fever, there are several varieties, which differ from each other only in the length of time that elapses between their attacks. There is one called *quotidian*, in which it comes on every twenty-four hours; another named *tertian*, in which it arrives every forty-eight hours, and the third *quartan*, because the intervals last seventy-two hours.

Symptoms. The symptoms of fever and ague commence with yawning, stretching and uneasiness; this is succeeded by slight chills or shiverings, that end in a violent or convulsive shaking of the whole body. This is the cold fit, and is immediately followed by

the fever or hot fit. The pulse rises,—the skin becomes hot,—pain in the head,—tongue white, and all the marks of fever, terminating in a profuse sweat, which gradually subsiding, leaves the patient in his natural state, though somewhat weakened.

CAUSES. Is supposed to depend upon the influence of malaria, a poison emanating from decaying vegetable matter in low marshy localities, and is frequently developed in previous healthy localities by turning up the soil, and clearing the lands of new countries. Water absorbs and transmits this miasmic poison to the system, and it is more abundant during the night.

TREATMENT. This consists first in the preventive, by maintaining of as near a standard of health as possible, by a properly regulated diet and protection from the night air. Sleeping in the upper stories of houses in malarial districts, and the closure of doors and windows on the side exposed to marshes or stagnant ponds. As soon as there are symptoms indicative of the approach of this disease, give at once a large dose of sulphate of quinine: to adults 10 to 20 grains, to children 4–6 years old 3 to 5 grains, and from 10–14 years 6 to 7 grains. When the fever comes on after the rigors and chills, soak the feet in hot water with a little mustard in, place in bed, cover lightly, and give some sweet spirits of nitre; tr. aconite, largely diluted, or a saline fever mixture. If the fever is very high, sponge the spine and whole body with tepid water. After the fever has passed off, renew the dose of quinine to prevent the return of the disease. If, however, it is not cut short by these means, and the quinine has no effect, combine it

means, and the quinine has no effect, give Fowler's solution of arsenic combined with very minute doses, 1-60th grain of strychnia. Of the Fowler's solution give 5 to 8 drops, three times daily to an adult.

YELLOW FEVER.

A fever which becomes epidemic in tropical and subtropical countries and does not spread at a temperature below 70°. As the sanitary measures have been bettered in the southern states the ravages of this disease have been decreased. It is characterized by an orange or bronze discoloration of the skin and in severe cases by the black vomiting and tarry stools.

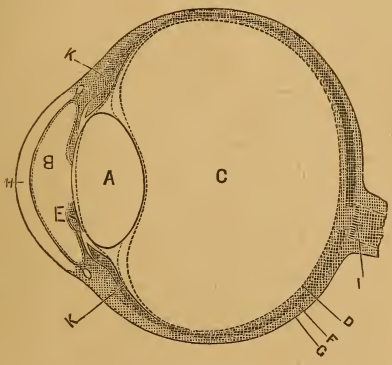
TYPHUS FEVER.

This is a contagious fever, which was formerly known as "jail fever," "camp fever," "ship fever," "spotted fever," and which owing to modern sanitary precautions has become obsolete.

PNEUMONIA—LUNG FEVER.

An inflammation of the lung tissue. Two clinical varieties are most frequently met with, viz.: Acute or lobar, and broncho-pneumonia. Lobar pneumonia has its starting point in the air cells and involves one or more lobes of either right or left lung or both, while broncho or lobular pneumonia nearly always follows some pre-existing disease and has its beginning in the bronchial tubes, and involves one or more lobules.

Symptoms. Acute pneumonia is usually ushered in with a chill, and a rapid rise in temperature,—a dull pain on the affected side,



THE EYE.

A, Lens. B, Aqueous humor. C, Vitreous humor. D, Retina. E, Iris. F, Choroid. G, Sclerotica. H, Cornea. I, Optic nerve. K, Ciliary process and muscle.

—a dry hacking cough,—cheeks highly flushed,—tongue dry and coated,—breathing rapid and shallow,—expectoration clear and tenacious, at first becoming bloody or rust-colored on third day,—countenance anxious,—frequently restlessness and delirium. The right side is the most often affected, and there is an immobility of the chest over that portion of the lung involved. The urine is dark and the bowels are slightly constipated. In lobar pneumonia, on about the 7th or 9th day, the patient passes through the crisis, the temperature falls to normal or below normal, and the breathing becomes clear. Broncho-pneumonia occurs in connection with some other disease, and the primary symptoms are the same as in bronchitis, though the respiratory symptoms are as a rule the same as in lobar pneumonia.

CAUSE. A specific micro-organism. Predisposing and exciting causes,—overcrowded and improperly ventilated rooms,—exposure to wet, or sudden changes of temperature,—inhalation of irritant or foreign substances,—injuries to chest, and some preceding affection.

DISTINGUISH it by the sudden onset of the fever,—the dry hacking cough,—the dull pain in side,—the anxious countenance,—the rapid and difficult breathing,—and by the brick dust color of sputum after the third day.

TREATMENT. This is one of the most fatal of acute diseases, and whenever possible the patient should be cared for by a trained nurse, under the close direction of a physician. A majority of the cases that die, could be saved by having a skilled and faithful nurse at the bedside throughout the disease. Lobar pneumonia is bound to run a definite course in spite of remedial measures, while broncho-pneumonia, under judicious management may be cut short at any stage, though it is more likely to be a prolonged illness. The patient's

bed should be in a well ventilated room, kept at an even temperature of about 60° or 65°. The external application of an oiled silk jacket proves nearly always satisfactory. This is made of a layer of cotton batting or wool, ½ inch thick, held in place by a lining of cheese cloth, and covered on the outside with oiled silk. This should be cut and shaped so as to make a close fitting jacket, extending from the last ribs to the throat, and fasten with safety pins. Ice bags or hot poultices should never be applied excepting under the special direction of physician, for they are irritating to the patient, and because of their weight interfere with the breathing. Particular attention must be given to sustaining the vital powers by the use of a stimulating liquid diet, such as will not waste energy by taxing the digestion or interfere with respiration by dilating the stomach. The fever is to be reduced and the restlessness and delirium quieted by cold sponging or the cold wet-pack. The nourishment should be given from an invalid's drinking cup, or through a drinking tube; and the patient should never be allowed to sit up to void urine or evacuate the bowels, but should use a bedpan, because movements or exertion are liable to spread the disease into healthy lung tissue, and what is more to be dreaded, a clot may be carried to the heart and produce instant death. Inhalations of oxygen are to be resorted to when the breathing becomes very difficult. This gas comes in tanks prepared for the purpose.

REMITTENT MALARIAL FEVER.

This name is applied to a type of malarial fever, in which the fever occasionally *abates*, but does not entirely *cease*, before a fresh attack comes on, so that the patient is never completely free from it. The treatment is the same

as in the intermittent form of the disease. If there is vomiting, hold pellets of ice in the throat and let them dissolve, which serves also furthermore to allay the burning thirst, usually present. Diluted limewater is another remedy for this purpose. And whenever this state exists the best article of diet is milk and limewater, and this may be given in the proportion of equal parts of each if the vomiting be persistent. Kumyss also agrees favorably with the stomach. When the fever continues at a high degree, the body may be wrapped in sheets wrung out of cold water or the patient may get into a cold bath.

TYPHOID FEVER.

SYMPTOMS. Languor,—debility,—dejection of mind,—alternate flashes of heat and chills,—loss of appetite,—disturbed sleep,—confusion of ideas,—aching of limbs,—ordinarily there are spells of diarrhea. These are succeeded by vertigo,—pain in the head,- vomiting and pain in abdomen,—fever, which grows worse toward night,—tenderness in lower part of right side of abdomen, with gurgling sound upon pressure,—after a few days the stools become yellow, thin and very offensive. During the second and third weeks, rose-colored spots frequently appear on abdomen and chest, and after a few days fade away and are replaced by a new crop,—the tongue is covered with a white, yellow, or brown fur, and is shining red at the tip. The temperature runs a course which is denominated the typhoid temperature. The evening temperature is invariably 1° or 2° higher than that of the morning, throughout the attack, and for the first week there is increase of 1° each day, then follows a period of more even temperature, which lasts until the fever declines.

CAUSE. The typhoid bacillus, which gener-

ally gains access to the body in the drinking water or food, and attacks the Peyer's patches of the intestine, and sets up an inflammation of the intestinal mucus lining.

DISTINGUISH it by the character of the temperature, which rises and falls every twenty-four hours, and which has an ascending period for the first five to ten days, and then a stationary period of from one to three weeks, followed by the period of decline,—by the diarrhea and offensive stools,—by the tender abdomen and by the few red spots which may appear and disappear over the body. Sometimes it is impossible to distinguish this fever from one of the other lingering fevers, until a physician makes a microscopical examination of the blood.

TREATMENT. This is always a serious disease and should, in every instance be under the close surveillance of a physician. More depends on the nursing and the careful following of the physician's directions than on the kind of medicine used. What has been said about sponging, the wet pack, and cold baths in the treatment of other fevers, applies particularly well here. The remedies to be given internally are intestinal antiseptics, intended to destroy the micro-organisms, and heal the inflamed mucus membrane in the intestine. The diet is the most important factor throughout the disease. Cooling drinks must be frequently given, care must be exercised that the patient has a sufficient amount of nourishment, and this must be of a quality not to tax the enfeebled digestive powers, or be a bulky irritant in the intestinal tract. To fill these indications, milk, kumyss, beef tea, and the meat broths are among the best articles. This fever is bound to run a course of from two to eight weeks, in spite of every effort made to combat it. The convalescent patient must continue on a restricted diet for one or two weeks after fever is broken. The stools and urine should be disinfected by being kept

in a closed vessel for an hour, containing one or two per cent. solution of chloride of lime, and then buried; and all bedding, clothing and eating utensils should be scalded each time after the patient is through using them.

HECTIC FEVER.

This is never a primary disease, but is always found as a symptom of some other one, as consumption.

SYMPTOMS. Night sweats,— bowels costive at first, then loose,—alternate chills and flushes,—a circumscribed spot on the cheeks, —a peculiar delicacy of complexion, and emaciation to so great a degree that the patient sometimes looks like a living skeleton.

CAUSES. The absorption of matter from abscesses, as in consumption and scrofula.

TREATMENT. Remove the cause, by curing the disease of which it is a symptom.

APPENDICITIS.

An inflammation of the appendix vermiformis, or of that worm-like portion of the intestines which is open at but one end. The character of this inflammation may be catarrhal or ulcerative to the degree of perforation.

SYMPTOMS. Pain and tenderness of variable severity in the right iliac region, most intense at a spot located half way between the umbilicus and the crest of the hip bone; and sometimes a swelling may be discerned in this locality. The right thigh may be flexed, with pain in right side of abdomen when extension

is attempted. There may be an initial chill and likewise vomiting. Usually the pain is acute, and there is a fever of from 101° to 103°, together with an accelerated pulse. A very rapid or irregular pulse is an unfavorable symptom, as is also signs of general inflammation of the bowels. Perforation of the intestines is followed by symptoms of surgical shock. It is impossible for the most skilled diagnostician to distinguish this disease in some instances.

CAUSE. Usually fecal concretions, fruit pits or seeds imprisoned in the appendix; and constipation and overeating seem to bring on an attack.

TREATMENT. Whenever there is a suspicion of appendicitis, the patient must remain quietly in bed, an ice bag be kept over the region of the appendix, large doses of olive oil repeatedly administered, inducing frequently loose stools, and opiates given sufficient to soothe pain. Under this treatment the majority of attacks recover without surgical interference, but where perforation is imminent a surgeon should remove the offending appendix at once. The life of the patient has been saved in a few instances where the operation for removal has been performed after perforation has taken place. This is always a serious malady and a physician should be in attendance upon the mildest cases.

CHAPTER II.

Diseases, whose effects, though extended to the whole body, commence in, and are chiefly confined to, particular parts.

CEREBRO-SPINAL MENINGITIS

BRAIN AND SPINAL FEVER.

An inflammation of the membranes covering the brain and spinal cord. This may be localized or involve both the cerebral and spinal portions.

SYMPTOMS. Intense pain in the head,—eyes incapable of bearing light,—pupils dilated or contracted,—restless delirium,—followed by stupor, —vomiting,—face flushed,—pulse hard and very rapid,—oppression of the chest,—head drawn back,—spasms.

CAUSES. Exposure to the excessive heat of the sun,—blows on the head,—infection of the membranes by a specific germ.

TREATMENT—Where the disease is suspected, the bowels should be opened by administering $\frac{1}{6}$ of a grain of calomel or one teaspoonful of epsom salts every hour until free movements occur; an ice bag applied to the head, and a physician sent for at once. If much nervous irritation is present, liberal doses of bromides are good.

HEADACH.

Causes. Some particular disease of which it is a symptom. Indigestion,—a foul stomach,—tight cravats or shirt collars,—exposure to the heat of the sun,—a rushing of blood into the head.

Treatment. This will vary according to the cause. If it arises from indigestion, that must be attended to. A foul stomach is one of the most usual causes of headach: such is the connexion between these parts, that the one is seldom out of order, without notice being given of it by the other. In this case, an emetic should always be administered, which, at a day's interval, is to be followed by a purgative. If from the beating of the artery in the temples and a sense of fulness in the head, we suspect it to originate from an undue determination to that part, apply ice bladder or cloths dipped in cold water to it.

Pains in the head frequently originate from old venereal complaints. They are also very often caused by gout or rheumatism; for such cases, see those complaints. When it arises from acidity of the stomach give five or six grs. of bicarbonate of potash in dilute camphor water three or four times daily.

See Sick-Headache, post, page 191.

INFLAMMATION OF THE EYE.

Symptoms. Pain, heat and swelling of the parts, which appear blood-shot,—the tears hot and scalding.—fever,—intolerance of light,—sometimes when the lids are affected, the edges become ulcerated.

Causes. External injuries, as blows,—particles of sand, &c. getting into them,—exposure to cold,—a strong light,—intemperance.

Treatment. If the complaint is caused by foreign

bodies, they must be removed with the point of a hair pencil, or the end of a piece of wire covered with lint, or washed out by injecting warm milk and water into the eye, with a small syringe. If particles of iron stick in it, they must be removed by an oculist. From whatever circumstance it may originate, the inflammation is to be subdued by ice or cold applications, and bleeding from the neighborhood of the eye, by a dozen or more leeches. The bowels should be freely opened with Epsom salts, and a cold-water poultice, enclosed in a piece of thin gauze, be laid over the part. The room should be perfectly dark, and the diet extremely low. Any of the lotions No. 9, may be used. If the pain is very severe, a small quantity of equal parts of belladonna and water may be dropped into the eye. If the eye-lids are ulcerated, touch them with the white vitriol ointment. Bathing the eye frequently with clear cold water is a refreshing and useful practice.*

DIMNESS OF SIGHT.

Symptoms. The patient imagines he sees particles of dust, flies, and cobwebs, floating in the air, and cannot distinguish clearly any object, either near or at a distance. Though the pupil sometimes does not contract, the eye is to all appearance unchanged.

Causes. Pressure on the optic nerves, within the scull, by tumours, or other causes, or an error or defect in the formation of the nerves themselves,—drunkenness,—blows on the head,—apoplexy,—excessive venereal indulgences.

* The best plan in all affections of the eye, whether inflammation, dimness of sight, &c., is to consult an oculist, as the least improper treatment may cause complete loss of sight.

TREATMENT. Blisters, issues, or a seton to the back of the neck. Electric sparks passed through the forehead, and drawn from the eyes, if persevered in for a considerable time, may prove effectual. As many causes of this disease are seated in the intestines and stomach, a light emetic may be first given, and then a succession of purgatives for several days or weeks.

NIGHT BLINDNESS.*

SYMPTOMS. The sight is perfectly clear and distinct during the day, but completely lost at night.

CAUSES. Prolonged exposure to extremely bright light,—general debility and exhaustion.

TREATMENT. The treatment must be directed to strengthening the general health by tonics and a generous diet; give quinine, iron, and cod-liver oil. At the same time keep in a darkened room, going out only when there is no sun, and even then with the eyes protected by dark glasses and a shade.

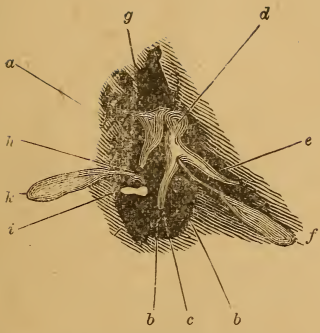
INFLAMMATION OF THE EAR.

SYMPTOMS. Pain in the ear, which at last either gradually ceases, or matter is discharged through the opening.

CAUSES. The accumulation of hard wax,—insects getting into it,—injuries from blows, &c.

TREATMENT. A little warm olive oil, with an equal part of laudanum, dropped into the ear, and

* There are many other diseases incident to the eyes, but none that can be managed by any but an oculist. When, therefore, any alteration in the *structure* of the eye is perceived, no time should be lost in having recourse to one.



CAVITY OF THE TYMPANUM, OSSICULA AUDITUS, AND THEIR MUSCLES. (Magnified.)

a a, cavity of the tympanum. *b*, membrana tympani, or rather the osseous circle to which it is attached. *c*, handle of the malleus, resting on the middle of the membrana tympani. *d*, head of the malleus, articulating with the incus. *e*, long handle of the malleus, passing into the crenoidal fissure (the anterior muscle of the malleus is attached to it). *f*, internal muscle of the malleus. *g*, anvil. *h*, lenticular bones. *i*, stapes. *k*, musculus stapedius.

retained there by a piece of wool or cotton, will frequently procure almost instant relief. If it be caused by hard wax, inject warm water or glycerine to soften it, and then, with *care*, endeavour to extract it, when the oil and laudanum may again be employed. In cases of great severity, a blister may be applied behind the ear. A temporary deafness frequently results from this complaint, and sometimes, when matter is formed, the bones of the organ are destroyed and hearing is lost for ever.*

BLEEDING FROM THE NOSE.

CAUSES. Fullness of blood,—violent exercise,—particular positions of the body,—blows, &c.

TREATMENT. Keep the patient erect, or sitting with his head thrown a little backwards, take off his cravat, unbutton his shirt collar, and expose him freely to the cold air; apply ice or *cold* vinegar and water to his testicles, and the back of the neck. If these are not sufficient, moisten a plug of linen with brandy, roll it in powdered alum and screw it up the nostril. A piece of cat-gut may, also, be passed through the nostril into the throat, drawn out at the mouth, and a bit of sponge be fastened to it and drawn back again, so as to make the sponge block up the posterior nostril. In doing this, it is necessary to leave a piece of the cat-gut so as to be got hold of, in order to withdraw the sponge. It is seldom, however, that the first remedies will not answer the purpose.

POLYPUS.

The nose is subject to two species of this tumour. The pear-shaped or pendulous polypus, and a flat-

* There are many affections of the ear which cannot be mentioned; however, in all cases, it is best to apply at once to an aurist.

tened irregular excrescence, which is extremely painful, and is of a cancerous nature. As soon as any affection of this kind is suspected, apply to a surgeon.

CANCER OF THE LIP.

This kind of cancer always commences in a small crack, which, after a while, becomes exquisitely painful. If closely examined, this crack is found to be seated in a small hard tumour, which soon ulcerates, and if not checked, extends the disorder to the throat, thereby endangering life.

TREATMENT. The knife is the only remedy for this as well as every other species of cancer, and no time should be lost in resorting to a surgeon.

MERCURIAL ULCERS IN THE MOUTH.

Large, dark looking ulcers in the mouth, are a common effect of the use of mercury. They may be known by the horrid smell of the breath, by the teeth being loosened from the gums, and by a coppery taste in the mouth.

TREATMENT. Omit all mercurial preparations, wash the mouth frequently with sage tea or a solution of one drachm of chlorate of potash in five ounces of water, and taking a table-spoonful of the same mixture inwardly three times daily.

ULCERS AND PIMPLES ON THE TONGUE.

Small pimples are occasionally found on the tongue, which at last form ulcers. Sometimes they are occasioned by the rough and projecting edge of a broken or decayed tooth: when this is the cause, the

part must be rounded by a file or the tooth extracted, when the sore will heal without further trouble. Whitish looking specks, which seem inclined to spread, are also met with on the inside of the cheeks and lips. They are easily removed by touching their surfaces with burnt alum or borax.

CANCER OF THE TONGUE.

Cancer of the tongue commences like that of the lip, being a crack or fissure in a small, hard, deep seated tumour on the side of the tongue.

TREATMENT. No time should be lost in useless attempts to cure it by medicines. The only safety for the patient is in the knife, and that at an early period.

VENEREAL ULCERS.

See SYPHILIS.

ENLARGEMENT OF THE UVULA.

The *uvula* is that little tongue-like appendage that hangs down from the middle of the fleshy curtain which divides the mouth from the throat. It is very subject to inflammation, the consequence of which is, that it becomes so long that its point touches, and sometimes even lies along the tongue, which creates considerable uneasiness, and is now and then the cause of a constant cough, which finally ends in consumption. It is commonly called the *falling of the palate.*

TREATMENT. Strong gargles of vinegar and water or a decoction of the black oak bark, or a water

solution of alum, will frequently cure the complaint. It happens very frequently, however, that in consequence of repeated attacks, it becomes *permanently* lengthened, and then the only resource is to cut off the end of it. If you are near a physician apply to him, if not, the operation is so simple that any man of common dexterity can perform it, particularly as little or no blood follows the incision. All that is requisite, is to seat the patient, seize the part with a hook, or a slender pair of pincers, draw it a little forward, and *snip* off its point with a pair of scissors

SWELLING OF THE TONSILS.

The tonsils are two glands situated in the throat one on each side, which are very apt to swell from inflammation by colds. They sometimes become so large as to threaten suffocation.

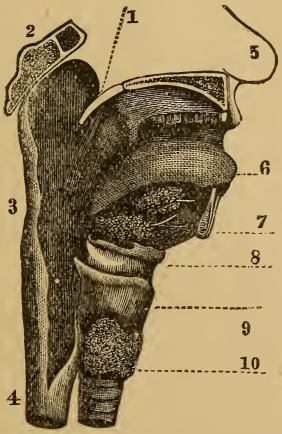
TREATMENT. In the commencement, this is the same as directed for Inflammatory Sore Throat, which see. If it does not succeed, apply to a surgeon to take them away.

TONSILITIS — QUINSY SORE THROAT.

An inflammation of one or both tonsils, which may involve uvula and entire fauces.

SYMPTOMS. Chills, followed by fever,— inside of throat and tonsils inflamed,— white or yellow spots on tonsils,—hoarseness,—tenderness,— swallowing painful,—darting pains in throat.

DISTINGUISH it by the severe swelling and pain from diphtheria by the spots on tonsils



VERTICAL SECTION OF THE MOUTH AND THROAT.

1. Pendulous palate; 2. Base of the cranium; 3. Pharynx; 4. Œsophagus; 5. Nose; 6. Tongue; 7. Salivary glands; 8. Lingual bone; 9. Thyroid gland; 10. Trachea or windpipe.

being small, and not having a bleeding surface when removed,—from scarlet fever by absence of pronounced eruption.

TREATMENT. If bowels are constipated give calomel or epsom salts,—tincture of aconite in drop doses every one or two hours,—10 grains of salicylate of soda in water every four hours, —gargle frequently with No. 35,—ice pellets held in throat,—ice bag on neck. Diet need not be restricted but patient usually cares to swallow nothing but liquids, and it is better to give them cold.

DIPHTHERIA.

SYMPTOMS. Diphtheria may exist with evidences so mild that no one is aware of its presence, and in many of the cases, which terminate fatally, the illness had been regarded as too trivial to demand special concern. In the beginning there is usually languor, chilliness, headache and the symptoms of fever. As a rule, there is some pain and soreness upon swallowing, and the breath is peculiarly offensive. Upon examination, the interior of the throat will appear red and swollen, and generally there is a gray or ashen brown membrane on the tonsils and uvula. This membrane may form on any of the mucus membranes or wherever the skin is abraded.

CAUSE. The Klebs-Löffler bacillus.

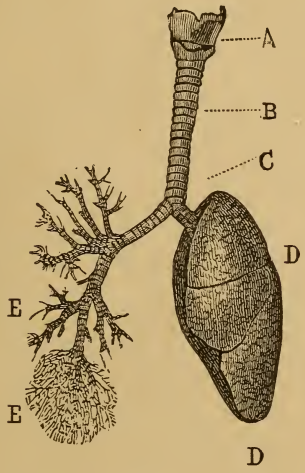
DISTINGUISH it by having a bacteriologist examine the secretions and mucus membrane of the throat for the *diphtheria bacillus*,—the only positive method.

TREATMENT. While not nearly so fatal among adults as with children, this is nevertheless a

fearful and treacherous disease, and whenever its presence is suspected, a physician should be summoned as early as possible. Diphtheria antitoxin is superior to all other remedial measures, and the earlier the physician injects this the better; and repeated injections during the course of the disease may be necessary. Members of the family who have been exposed, if injected with this serum, of proper strength, will thereby be prevented from having the disease, and become insusceptible to it for several weeks. Throughout the course of the attack, the mouth is to be washed and the throat gargled with No. 35, every two to three hours. Calomel is to be given in $\frac{1}{6}$ or $\frac{1}{8}$ grain doses every hour and discontinued only at times when bowels are too free. Plenty of liquids should be drunk, and one tablespoonful of the infusion of digitalis taken three times daily. If the membrane extends down into the windpipe, closing it so that the patient cannot breathe, then a tube must be inserted. The patient must remain absolutely quiet for three or four days after the membrane has disappeared from the throat, for fatal heart failure sometimes results from not observing this precaution. Tablespoonful doses of bitter wine of iron should be taken three times a day for three or four weeks after all symptoms have subsided. The strictest quarantine must be practiced, and after recovery the sick-room must be fumigated and all clothing, utensils and bedding either boiled or burned.

STRICTURES IN THE THROAT

Symptoms. The first mark of an obstruction or stricture in the throat, is a slight difficulty in swal-



LUNGS AND TRACHEA IN MAN,

showing the position of the windpipe and bronchial tubes, relatively to the lungs.

A, Larynx and superior extremity of the trachea; B, trachea; C, division into bronchi; D, one of the lungs; E, bronchial ramuscules.

lowing solids, which continues increasing for months, or until the passage becomes so contracted that the smallest particle of food cannot pass, but having remained an instant at the strictured part, is violently rejected. If the obstacle is not removed, the patient starves.

TREATMENT. Meddle not with the complaint yourself, for you can do nothing to relieve it, but apply with all speed to a surgeon, and remember that your life is at stake.

CATARRH, OR COLD.

SYMPTOMS. A dull pain in the head,—swelling and redness of the eyes,—effusion of a thin acrid mucus from the nose,—hoarseness,—cough,—fever, &c.

CAUSES. Cold or damp air,—exposure to wet.

TREATMENT. If the symptoms be extremely violent, give twenty drops of hartshorn in half a pint of warm vinegar whey. (See No. 12.) Hoarhound and boneset tea taken in large quantities, are very useful. The patient should be confined to his bed, and be freely purged. If there is great pain in the breast, apply a blister to it. To ease the cough, take two tea spoonsful of No. 13, every fifteen minutes, or till relief is obtained.

THE INFLUENZA is nothing more than an aggravated state of catarrh, and is to be cured by the same remedies. *No cough or cold is too light to merit attention. Neglected colds lay the foundation of consumption, and every year send thousands to the grave.*

ASTHMA

SYMPTOMS. A tightness across the breast,—frequent short breathing, attended with a wheezing, in-

creased by exertion and when in bed. It comes on in fits or paroxysms.

CAUSES. Spasm of the lungs.

TREATMENT. If the cough be violent and frequent, with great pain in the breast, breathe the smoke from burning paper saturated with saltpetre, or the fumes of burning dried stramonium leaves. The tincture of digitalis is highly recommended in asthma. It should be taken in doses of a very few drops at first, and *cautiously* increased. If the pulse sinks under it, or giddiness, &c. is produced, it must be laid aside. In fact, it is hardly prudent to take this active and dangerous article, except under a physician's care. The Indian tobacco may be safely used in place of it, in doses of a tea-spoonful of the tincture,* every half hour till relief is obtained. The dried roots of the thorn apple and skunk cabbage, are sometimes smoked through a pipe for the same purpose. Asthma is a disease that is seldom completely cured by art; nature, however, occasionally affects it.

PLEURISY.

SYMPTOMS. A sharp pain, or *stitch* in the side, increased upon breathing,—inability of lying on the affected side,—pulse hard, quick and corded, —tongue white.

CAUSES. Cold—all that produce inflammation.

TREATMENT. Apply at once 6 or 8 wet cups, or place a *large* blister over the side and give a full dose of Epsom salts. Repeat the cupping as often as the pulse seems to demand it, and if expec-

* Take a sufficient quantity of the leaves, stem and pods of the plant, put them into a bottle and fill it up with brandy or spirits, and let it remain for a few days.

toration does not come on, apply another blister close to the first one. All the remedies for the reduction of inflammation, must be actively employed. The patient should be confined to his bed, with the head and shoulders a little elevated, and a warm decoction of the common hemlock* taken frequently, and in liberal quantities. The diet should always consist of rice or barley water.

SPITTING OF BLOOD.

Symptoms. Blood of a bright red colour, often frothy, brought up by coughing.

Causes. Consumption and its causes,—a fullness of blood,—rupture of a blood vessel from any cause.

Distinguish it *from vomiting of blood*, by its bright colour, and being brought up with coughing.

Treatment. Give the patient at once a table spoonful of common salt, and direct him to swallow it. Apply cold to the chest. The sugar of lead has much reputation in this complaint; 2 or 3 grains of it, with from a half to a whole grain of opium, may be taken every 3 or 4 hours; and in severe cases, where the blood flows rapidly, 5 or 6 grains, with two of opium, may be taken at once. The most perfect rest should be strictly enjoined. and the diet consist of cold mashed turnips or *cola* rice water.

CONSUMPTION.

Symptoms. A short, dry cough,—languor and gradual loss of strength,—pulse small, quick, and soft,—pain in the breast,—expectoration of a frothy

* Twigs and leaves of the tree.

matter, that at last becomes solid and yellow,—the breathing grows more anxious and hurried.—the emaciation and pain increase,—hectic fever.—night sweats and a looseness of the bowels come on, and the patient, unsuspicious of danger, dies.

CAUSES. Receiving a disposition to the disease from father or mother,—a flat chest,—spitting of blood,—neglected colds,—dissipation, &c.

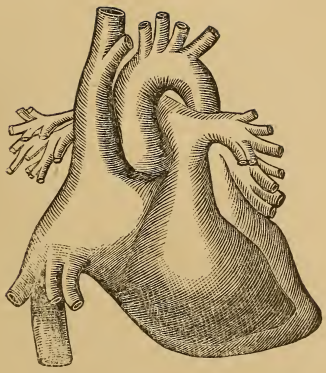
DISTINGUISH IT by the long continued dry cough,—pain in the breast, and great emaciation,—by the matter thrown up being pure *pus*.

TREATMENT. In a *confirmed* state of consumption, nothing that art has hitherto been able to do, can afford us any solid hopes of a cure. When once the disease is firmly seated in the lungs, all that is possible, is to smooth the passage to the grave, and perhaps for a while to retard it. If, however, the disease is taken in its very bud, much may be done by a change of climate, a milk diet, vigorous and *daily* exercise on horseback, and by carefully avoiding cold and all exciting causes. A removal to a dry climate should be the first step taken, if practicable; a cold, dry climate is better than a warm, moist one. A complete suit of flannel, worn next the skin, is an indispensable article for every one who is even inclined to this most fatal disorder.

PALPITATION OF THE HEART.

The symptoms of this complaint must be obvious from its name. When it arises from a diseased state of the heart or its vessels, nothing can be done to *cure* it. The patient should be careful to avoid a full habit of body, and abstain from violent exercise and sexual indulgences. He should live low, and keep as quiet and composed as possible. A fit of anger, or any imprudence, may cost him his life.

There is a milder kind of this disease resulting



THE HEART. (RIGHT SIDE.)

from debility, which must be remedied by restoring the strength of the general system. It is also symptomatic of other diseases, and must be treated accordingly.

DROPSY OF THE CHEST.

SYMPTOMS. Great difficulty of breathing, which is increased by lying down,—oppression and weight at the breast,—countenance pale or livid, and extremely anxious,—great thirst,—pulse irregular and intermitting,—cough,—violent palpitation of the heart,—the patient can lie on one side only or cannot lie down at all, so that he is obliged to sleep sitting, —frightful dreams,—a feeling of suffocation, &c.

CAUSES. Debility,—all those producing dropsy in general.

DISTINGUISH IT by comparing carefully all the symptoms together. It is most liable to be confounded with a diseased state of the heart and its vessels.

TREATMENT. This is another of those diseases that mock the art of man. To say it is incurable, would be hazarding too much, but as yet, it has nearly always proved so. All that can be done is to follow the same plan that is laid down for the treatment of dropsy in general, which consists of purging, diaphoretics and diuretics.* When the water appears to be confined to one cavity of the chest, and the oppression cannot be borne, some relief may be obtained by a surgical operation.

* Substances that act on the kidneys, producing an increase of urine.

INFLAMMATION OF THE STOMACH

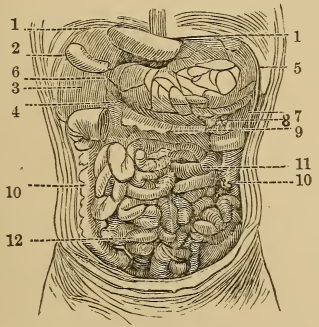
SYMPTOMS. A fixed burning pain in the stomach, —small, very quick, hard pulse,—sudden and great weakness,—the pain in the stomach *increased* on the slightest pressure,—vomiting,—hiccup. To these are sometimes added an erysipelatous inflammation, extending from the mouth to the stomach,—fainting, clammy sweats, and death.

CAUSES. Cold suddenly applied to the body or stomach,—drinking largely of cold water while very warm,—the striking in of eruptions,—poisons,—gout, —rheumatism.

DISTINGUISH IT *from inflammation of the bowels.* by the *seat* of the pain, which is just below the breast bone, in what is called the pit of the stomach, the burning heat and pain there,—by the hiccup and vomiting.

TREATMENT. If from an overloaded stomach, or indigestible food therein, give an emetic; but if by examination it is found that the food has passed out of the stomach into the intestines, give no emetic, but a purge of senna leaves with magnesia. A day or two afterward, to remove the acidity of the stomach, give 6 to 10 grs. of bicarbonate of soda or soda water. If, however, the inflammation is from general debility, give no emetic or purgative, but beef tea, wine, quinine, &c., and place warm emollient poultices on the stomach. If from cold, give no meat, but farinaceous diet; 6 to 10 grs. of bicarbonate of soda 3 or 4 times daily, and keep the bowels open with calcined magnesia and senna. Use no spirituous liquors, but drink freely of ice water. If there is much pain, give besides the warm poultice inwardly neutral mixture, with sulphate of morphia every 1 or 2 hours.

When the inflammation is reduced, and the stomach will bear it, a grain of solid opium may be



CAVITY OF THE ABDOMEN.

1. Diaphragm.
2. Gall-bladder.
3. Right lobe of liver.
4. Duodenum.
5. Great end of stomach.
6. Pyloric end of stomach.
7. Spleen.
8. Omentum.
9. Pancreas.
10. Great intestine, (colon.)
11. Small intestine, (jejunum.)
12. Small intestine, (ilium.)

given occasionally with advantage, combined with some bitter tonic, as tincture of cardui benedicti, extract of absynthi. If the disease has been brought on by poison taken into the stomach, apply the remedies directed in such cases, as oleaginous substances, to neutralize the poison; if, however, there is beginning paralysis, give an emetic and put sinapisms on the stomach. If mortification ensues, death is the inevitable consequence.

CRAMP IN THE STOMACH.

SYMPTOMS. Violent spasmodic pain in the stomach, which is so severe, as nearly to occasion fainting.

CAUSES. Cold,—gout,—rheumatism, &c. &c.

TREATMENT. Give 50 or 60 drops of laudanum, in a tea spoonful of ether, with a little hot wine. Apply bladders or bottles filled with warm water to the stomach and soles of the feet, or put the patient into the warm bath. If the first dose of laudanum does not relieve the pain, repeat it.

HICCOUGH.

SYMPTOMS. A spasmodic affection of the stomach and diaphragm,* producing the peculiar noise which gives rise to the name.

CAUSES. Some peculiar irritation.

TREATMENT. When hiccoughs occur at the close of any disease, they may be considered the harbingers of death: they, however, frequently arise from acidity in the stomach and other causes. A long

* A large, broad muscle that closes the chest below, dividing it from the belly. It is one of the agents in respiration.

draught of cold water, a sudden surprise or fright, puts an end to them. A blister over the stomach may be applied for the same purpose. I have succeeded in relieving a violent case of hiccoughs that resisted every other remedy, by the oil of amber, in doses of five drops every 10 minutes. It may be taken in a little mint water.

HEART-BURN.

This common and distressing affection is most ge nerally connected with indigestion. To relieve it for the moment, magnesia, soda or seltzer water, and water acidulated with sulphuric acid, may be employed. To cure the complaint, requires the digestive powers to be strengthened by tonics, bitters, and the different preparations of iron, &c. as directed for indigestion. The application of a blister over the stomach may be of use. The white oxide of bismuth in six grain doses, three times a day, taken in milk, has been found of service.

INDIGESTION.

Symptoms. Want of appetite,—low spirits,—pains and fullness in the stomach,—belching,—a sour water rising in the mouth,—heart-burn,—the bowels are irregular and generally costive,—weakness and emaciation,—pulse small and slow,—pain in the head,—skin dry,—great uneasiness after eating.

Causes. All those which induce debility,—excessive indulgence in the pleasures of the table or intemperance in any way,—chewing tobacco,—a sedentary life, or want of exercise,—a diseased liver.

Treatment. In every case of indigestion, the first thing the patient should do, is to abstain from what-

ever may have tended to produce it. Chewing and smoking tobacco, occasion a waste of the saliva that is necessary to the digestive process—they must be abandoned. The diet should consist of *animal* food that is light, nourishing and easily digested. Roasted mutton is perhaps preferable to any other. Country air and constant exercise on horseback, are invaluable remedies in this disease, which, as it is generally occasioned by a departure from *natural* habits and employments, must be relieved by a return to them. Flannel should be worn next the skin and care taken to avoid cold or exposure to wet. A wine glass of the cold infusion of bark and quassia,* with ten or twelve drops of the elixir of vitriol, should be regularly taken three times a day, for months. The bowels are to be kept open by some warm laxative, as rhubarb, and the whole frame braced by the daily use of the cold bath. Pepsin in ten to fifteen gr. doses with bismuth just before meals is of much use in the complaint of which we are speaking. *Weak* spirits and water, or a single glass of sound old Madeira, may be taken at dinner, but all malt liquors should be avoided. Much benefit has been found to result from a long continued use of the wine of iron,† a glass of which may be taken twice a day.

But see post, page 174, for a much fuller account of INDIGESTION, or DYSPEPSIA.

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* Made by placing one ounce of powdered bark and one of ground quassia in a close vessel, to which is added a quart of boiling water—to be kept *simmering* near the fire until the whole is reduced to a pint.

† Take of iron filings four ounces, and pour on it four pints of Madeira wine, let it stand for a month, shaking it frequently.

VOMITING OF BLOOD.

SYMPTOMS. A flow of dark blood from the stomach, preceded by a sense of weight and oppression in that organ. The blood is generally mixed with particles of food, &c.

CAUSES. Tumours pressing on the liver, blows, &c

DISTINGUISH IT *from spitting of blood*, by its dark colour and being mixed with food.

TREATMENT. If the accompanying symptoms be inflammatory, use some cooling purge: if otherwise, try thirty drops of the muriated tincture of iron in a glass of water, every hour till the bleeding ceases. If the cause be a diseased liver, or tumour in its neighbourhood, treat it accordingly.

INFLAMMATION OF THE LIVER.

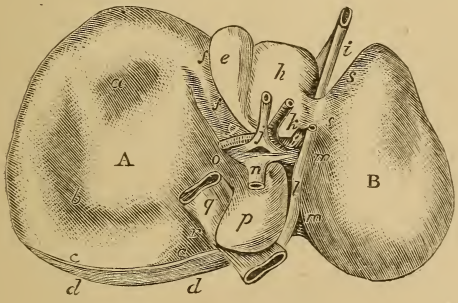
SYMPTOMS. A dull pain in the right side below the rib, which is more sensible on pressure,—an inability to lie on the *left* side,—pain in the *right* shoulder,*—a sallow complexion. Such are the symptoms of an acute attack of this disease. There is another species of it, called chronic, in which its approaches are so gradual that it is a difficult matter to determine its nature. It commences with all the symptoms of indigestion, and ends in jaundice or dropsy.

CAUSES. Long continued fever and ague,—inflammation,—acrid bile,—drunkenness or a *free* use of spirituous liquors is a very common cause,—injuries from blows, &c.

DISTINGUISH IT *from pleurisy*, by the pain not being so severe; and by its extending to the top of the shoulder,—by not being able to rest on the *left* side.

TREATMENT. If from injury, apply leeches, and

* This is owing to the course of the phrenic nerve.



THE LIVER.

A, right lobe. B, left lobe. *a*, depression for colon. *b*, depression for right kidney and capsule. *c c*, coronary ligament, inferior layer. *d d*, surface uncovered by peritoneum. *e*, gall-bladder. *f f*, fissure for gall-bladder. *g g*, transverse fissure. *h*, lobulus quadratus. *i*, umbilical vein. *j*, hepatic duct. *k*, hepatic artery. *l*, ductus venosus. *m m*, fissure for ductus venosus. *n*, vena portæ. *o*, lobulus caudatus. *p*, lobulus Spigelii. *q*, inferior vena cava. *r*, fissure for inferior vena cava. *s s*, longitudinal fissure.

afterward ice over the part. If from other causes, warm emollient and narcotic poultices are better, and antiphlogistics and calomel are dangerous. The bowels should be opened by Epsom salts or calomel and jalap. If this does not abate the symptoms in a few days, give a calomel pill of one grain every five hours, or rub a drachm of the strongest mercurial ointment into the side until the gums are found to be a little sore, when the frictions or pills must be discontinued until the mouth is well, and then again resorted to as before. If an abscess points outwardly, apply bread and milk poultices to the tumour, omit the mercury, use wine, bark and a generous diet. As soon as matter is to be felt within it, open it at its lowest and most projecting part with the point of a sharp lancet, and let out its contents *very slowly*, taking care not to close the wound till this is completely effected. The nitric acid in doses of ten or twelve drops, three times a day, gradually increased, and steadily persevered in, will sometimes produce a cure. The mercurial plan, however, is to be preferred.

JAUNDICE.

Symptoms. Languor,—loathing of food,—a bitter taste in the mouth,—vomiting,—*the skin and eyes of a yellow colour*,—the stools clayey, and the urine giving a yellow tinge to rags dipped in it. There is a dull pain in the right side, under the last rib, which is increased by pressure. When the pain is severe, there is fever,—the pulse hard and full, &c.

Causes. An interruption to the regular passage of the bile, which is carried into the blood,—bile being formed in too great quantities. The first is occasioned by gall-stones, a diseased liver, &c. *Intemperance* is a very common cause, hence tipplers are more subject to it than others.

Treatment. Place in a warm bath, and allow to remain there some time; when removed to bed, a grain or two of opium may be given every few hours until the pain is relieved. Bladders partly filled with warm water, or cloths wrung out of hot decoctions of herbs, may also be applied to the seat of the pain. If the stomach be so irritable as not to retain any thing on it, try fomentations and the effervescing mixture, or a blister to the part. As soon as some degree of ease is obtained* by these means, purgatives must be employed, and steadily persevered in; calomel and jalap, or Epsom salts, in the ordinary doses, answer very well. The diet ought to be vegetable, and should the disease have arisen from a neglected inflammation of the liver, it must be treated accordingly. Diaphoretics and resolvents should be given to remove the bile from the blood and the discoloration of the skin; for which acetate and muriate of ammonia, rhubarb, dandelion root, and chelidonium are recommended. Turpentine is particularly good if there be gall-stones or hardening of the liver. (See Inflammation of the Liver.) If putrid symptoms show themselves, meet them with the remedies already directed for such cases. Regular exercise (on horseback, if possible) should never be neglected by persons subject to this disease.

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* If, however, this cannot be done, and from the pain being very acute at one particular spot, there is reason to suppose that a gall-stone is lodged there, the following remedy may be tried, of which one-fifth or a little less may be taken every morning, drinking freely of chicken broth, flaxseed tea, or barley water after it.

Ether three drachms.

Spirits of turpentine two drachms. Mix them

AGUE CAKE.

This is the vulgar appellation of an enlarged spleen, and expresses with much brief meaning, the cause of the complaint, as it generally results from ill-treated or obstinate intermittents. It is, however, not productive of much uneasiness, and frequently disappears of itself. The plan of treatment must be governed by the cause: by intermittents, quinine; by chlorosis, iron with quinine; by anæmia, quinine with sulphur, auratum, iodide of iron; by syphilis, mercury, &c.

INFLAMMATION OF THE INTESTINES.

SYMPTOMS. Sharp pain in the bowels which shoots round the navel, and which is *increased by pressure*,—sudden loss of strength,—vomiting of dark coloured, sometimes excrementitious matter,—costiveness,—small, quick and hard pulse,—high coloured urine.

CAUSES. Strangulated ruptures,—cold,—accumulations of hard feces in the bowels,—colic, &c.

DISTINGUISH IT *from colic*, by the pain being *increased* by pressure, whereas in colic it is *relieved* by it.

TREATMENT. Consists in warm narcotic applications to the abdomen; olive oil and laudanum on a thick piece of flannel applied very warm is good; warm baths, oleaginous drinks and emulsions, as oil of sweet almonds with gum arabic; strict diet, ipecacuanha and opium in powder, ½ gr. each, every 1 or 2 hours,—calomel and opium, castor oil, &c. If there is sweating, then warm baths are contraindicated.

The diet should consist of *small quantities* of barley or rice water *only*. If in the latter stages of the disease, when the inflammation has somewhat subsided, an obstinate costiveness be found to resist all the usual remedies, dashing cold water over the abdomen will sometimes succeed, or better still to place ice in a bladder over the abdomen.

Remember that this complaint frequently runs its course in a day or two, and that, unless the proper treatment be at once employed, mortification and death will ensue. If a strangulated rupture occasion the disease, attempts at reduction must be tried, or operation at once. Great care must be taken in trying to reduce the rupture if it be the cause. It is best to call a physician.

CHOLERA MORBUS, OR VOMITING AND PURGING.

SYMPTOMS. A violent vomiting and purging of bile, preceded by a pain in the stomach and bowels, —quick, weak and fluttering pulse,—heat,—thirst, —cold sweats,—hiccups, and sometimes death in a few hours.

CAUSES. Exposure to sudden changes of weather, —not wearing flannel,—unripe fruit,—acrid matters of any kind in the bowels,—cold moist air, &c.

TREATMENT. Wash out the stomach and bowels with copious draughts of chamomile tea, barley or chicken water, &c. and inject clysters of the same

articles. Bladders or bottles containing hot water, should be applied to the feet, and flannel cloths wrung out of hot spirits, be laid over the stomach. When from the quantity of barley water, &c. that has been taken, it is supposed that the stomach is sufficiently cleared, give one-half grain of powdered opium, and repeat it every few hours as the case may require.* If the powder will not remain in the stomach, give 80 or 90 drops of laudanum, in a table-spoonful of thin starch, by clyster, and pieces of ice on the tongue. Fifty or sixty drops of laudanum in a small quantity of strong mint tea, or the effervescing draught, will frequently succeed in allaying the irritation. If all these means fail, apply a blister to the stomach. When the violence of the attack is over, give castor oil or the oil mixture, No. 14, to carry off the bile that may remain in the bowels. To complete the recovery and to guard against a second attack, a complete casing of flannel is requisite, with the use of vegetable bitters and tonics. Persons subject to this disease should be cautious in their diet, and avoid exposure to moist cold air.

See ASIATIC, or EPIDEMIC CHOLERA, post, p. 163.

DYSENTERY.

SYMPTOMS. Fever,—frequent small stools, accompanied by griping, bearing down pains, the discharge consisting of pure blood or blood and matter, sometimes resembling the shreds or washings of raw flesh, —a constant desire to go to stool,—vomiting.

CAUSES. Moist cold air,—unwholesome, putrid

* If the weakness be very great, and the spasms so alarming as to cause a fear of the immediate result, the quantity of opium may be increased to 6, 8 or 10 grains at a dose.

food,—noxious vapours from marshes, &c.,—a peculiar and unknown condition of the atmosphere.

DISTINGUISH IT *from a diarrhœa or lax*, by the fever, griping pains, and the constant desire to evacuate the bowels,—by the discharge itself being blood, or matter streaked with blood, &c.

TREATMENT.* In case the dysentery should be caused by hardened feces or something in the intestines, give at the first onset of the disease a dose of castor oil with 20 drops of laudanum, and then the following day begin the remedies to correct the looseness of the bowels. If there is blood diarrhœa, colic pain and tenesmus, give Dover's powder or an emulsion of oil of sweet almonds, nitrate of soda with laudanum. Make warm fomentations on the abdomen. If this does not cure, give every 2 hours small doses of calomel and opium, and in the evening 5 or 10 grains of Dover's powder,—and morning and evening a clyster of nitrate of silver, 2 gr. to 5 oz. water, with 10 drops of laudanum therein. The diet should consist of gum arabic dissolved in milk, arrow-root jelly, barley water, &c. Clysters of the same articles, with the addition of an ounce of olive oil, and twenty drops of laudanum, may be likewise injected several times in the day.—If severe tenesmus (or constant desire to go

* I have known several cases of dysentery, when taken in the very beginning, cured in one or two days by a free use of the common blackberry syrup.

to stool) remains, anodyne clysters will be found useful, or what is more effectual, a couple of grains of opium placed just within the fundament. The various astringents which are proper for dysentery in its latter stages, are found in Nos. 15, 16, and 17, which may be used with port wine and water, as a drink.

DIARRHŒA.

SYMPTOMS. Repeated and large discharges of a thin excrementitious matter by stool, attended with griping and a rumbling noise in the bowels.

CAUSES. Cold,—suppressed perspiration,—acrid matters in the bowels,—unripe fruit, &c.

TREATMENT. If the disease arises from cold, a few doses of the chalk mixture, No. 18, will frequently put an end to it. It is, however, sometimes necessary to begin with an emetic of twenty grains of ipecacuanha, and then open the bowels by some mild purgative, as castor oil or rhubarb. Bathing the feet in warm water, and copious draughts of boneset tea, will be found of great benefit, if it originate from suppressed perspiration. For the same purpose also, from 6 to 10 grains of Dover's powder may be taken at night, being careful not to drink any thing for some time after it. If *worms* are the cause, treat it as directed. When it is occasioned by mere weakness, and in the latter stages of it (proceed from what it may), when every irritating matter is expelled, opium, combined with astringents, is necessary, as in the similar period of dysentery. The diet should consist, in the beginning, of rice, milk, sago, &c. and subsequently of roasted chicken. Weak brandy and water, or port wine and water, may accompany the chicken for a common drink. Persons subject to complaints of this kind, should defend their bowels from the action of cold by a flannel shirt; the feet and other parts of the body should also be kept warm.

COLIC.

SYMPTOMS. Violent shooting pain that twists round the navel,—the skin of the belly drawn into round balls,—obstinate costiveness,—sometimes a vomiting of excrement.

CAUSES. A cold,—indigestible or acrid food,—wind in the bowels,—poisons,—gout,—rheumatism,—worms, &c. &c.

DISTINGUISH IT *from inflammation of the bowels* by the pain being *relieved by pressure*, and from other diseases by the twisting round the navel,—the skin being drawn into balls, &c.

TREATMENT The first thing to be done in this disease, is to give a large dose of laudanum in a little peppermint water or warm brandy, and apply a mustard poultice below the navel. Fifty, sixty or seventy drops of laudanum may be given at once, as the pain is more or less violent, and the dose be repeated in half an hour, or less time, if ease is not procured, while some warm fomentations on the abdomen will afford much relief; when this does not help, try ice. During this time, if the first doses of laudanum are found ineffectual in reducing the pain, and it is very great, eighty or ninety drops may be given as a clyster in a gill of gruel, or warm water. One great rule in the treatment of colic where the pain is *excessive*, is, to continue the use of opium in such increased doses as will relieve it!—When this is obtained, castor oil by the mouth and clyster must be employed to open the bowels.

In bilious colic when there is a vomiting of bile, the effervescing draught, with thirty drops of laudanum, may be taken, to quiet the stomach, to which flannels wrung out of warm spirits may be applied. When the vomiting has abated, the oil mixture, No

14, or the pills, No 19, should be taken until a free discharge is procured. If, notwithstanding our endeavours, the disease proceeds to such an extent as to induce a vomiting of excrement, the tobacco clyster* must be tried, or an attempt be made to fill the intestines with warm water. This is done by forcibly *injecting* it in large quantities, at the same time the patient *swallows* as much as he is able. In this way, with a proper syringe, two gallons have been *successfully* introduced. In all cases of colic, when there is obstinate costiveness, an examination of the fundament should be made with the finger If there are any hard, dry pieces of excrement there, they may be removed either by the finger or the handle of a spoon.

Those who are subject to colic, should avoid fermented liquors, and as much as possible, vegetable food; be always well clothed, and take care not to expose themselves to cold and wet. The bowels should never be allowed to remain costive.

PAINTER'S COLIC.

Symptoms. Pain and weight in the belly,—belching,—constant desire to go to stool, which is ineffectual,—quick contracted pulse,—the belly becomes painful to the touch, and is drawn into knots,—constant colic pains,—the patient sits in a bent position, —after a while palsy of the whole body or a part.

Causes. The fumes of lead, or the handling of its different preparations.

Treatment. This disease is but too apt to end in palsy, leaving the hands and limbs contracted and useless. In every case of colic, whose symptoms resemble the above, if the person has been exposed

* See Clysters.

to lead in any of its shapes, all doubt on the subject vanishes.

If from the *violence* of the attack an inflammation of the bowels be feared, give hourly a table spoonful of castor oil. Give laudanum in large doses, and rub the belly well with warm spirits, and place him in a bath as hot as he can bear it. As soon as he is well dried, and has rested in bed a few minutes, take him up, and dash a bucket of cold water over his belly and thighs, or mix an ounce of calcined magnesia in a pint of milk, and give a wine-glassful every half hour, until ease is obtained. If this, with castor oil by the mouth and in clysters, will not produce a stool, apply a large blister to the belly. As soon as the symptoms are somewhat abated, castor oil or laxative clysters may be resorted to for the purpose of keeping the body open; and to guard against a return, small doses of opium should be taken from time to time. Bitters, the different preparations of iron, bark, &c. are necessary to restore the strength of the system. According to modern times, let those who work in lead or paint, drink of skimmed milk with their meals, and lead or painter's colic will be warded off.

WORMS.

Symptoms. Intolerable itching at the nose, sometimes at the fundament,—disagreeable breath,—grinding of the teeth and starting during sleep,--hardness of the belly,—gradual emaciation,—colic, and sometimes convulsions.

Causes. Unknown.

Treatment. This will vary according to the kind of worm that is to be destroyed. They are of three kinds :

THE WHITE THREAD WORM

Resembles a small piece of white thread, and is usually found near the fundament, at the lower end of the guts, where it produces a contraction of the parts, and a most intolerable itching. Clysters of lime water will frequently bring whole nests of them away, and procure instant relief. The tincture of aloes, No. 20, however, is by far the best remedy known, for not only this, but the round worm.

THE ROUND WORM

Occupies the small intestines, and sometimes the stomach. It is of various lengths, from 3 to 8 or more inches. If the tincture of aloes fail to remove it, the pink root may be taken in decoction, or in powder, in doses of 60 or 80 grains, to be followed after three or four days by ten or fifteen grains of calomel. Cowhage in molasses or honey, with a dose of castor oil every third day, has been very highly extolled. In cases where all other means have failed, tobacco leaves pounded with vinegar and applied to the belly, have produced the desired effect.*

THE TAPE WORM

Inhabits the whole of the internal canal, and frequently defies all our efforts to get him out of it. Large doses of spirits of turpentine, from one to two ounces, in barley water, have been advantageously employed for this purpose, and are the very surest remedy that we possess. A remedy formerly much celebrated, is that of Madam Nouffler, the basis of which is No. 21; after two doses of which, 15 or 20 grains of jalap with 8 or 10 of calomel should be taken. If the spirits of turpentine be tried, large

* All the prescriptions, No. 22, may be tried in succession.

quantities of gruel or barley water should be used with it, in order to prevent its irritating the stomach and kidneys.

By whatever means these troublesome guests are got rid of, the patient should be careful to strengthen his system and bowels by a course of bark, bitters, wine, &c. and to use a great proportion of animal food in his diet.

INFLAMMATION OF THE KIDNEYS.

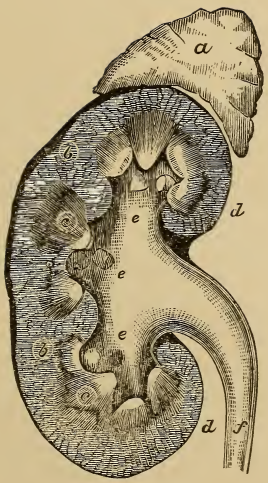
Symptoms. Deep seated pain in the small of the back,—urine high coloured and small in quantity, sometimes bloody,—sickness at the stomach,—vomiting.

Causes. Gravel in the kidneys,—Spanish flies,—straining the back,—hard exercise by riding, walking, &c.—cold,—intemperance.

Treatment. This will depend upon the cause. If it proceed from gravel, the plan to be pursued will be detailed under that head. If it arise from any of the others, place warm emollient narcotic fomentations over the region of the kidneys, or put him into a warm bath. Twenty grains or more of the uva-ursi, with half a grain of opium three times a day, accompanied by small quantities of warm barley or rice water, is one of the most valuable remedies we are in possession of. The diet during the attack should consist of mucilaginous drinks only, which must be frequently taken, notwithstanding they may be rejected by vomiting.

GRAVEL.

Symptoms. A fixed pain in the loins,—numbness of the thigh,—constant vomiting,—retraction of the



VERTICAL SECTION OF THE KIDNEY.

a, supra-renal capsule. *b b*, cortical substance of kidney. *c c*, medullary substance of kidney. *e e e*, the sinus or pelvis. *f*, the ureter, proceeding to the bladder.

testicle,—urine small in quantity, voided with pain, and sometimes bloody. As the gravel passes from the kidney into the bladder the pain is so acute as to occasion fainting, &c. &c.

CAUSES. The formation of a peculiar acid in the kidneys.

TREATMENT. Chloroform inhalation, or put him into a warm bath, where he should remain some time. Meanwhile an emollient and anodyne clyster should be got ready, which must be given to him as soon as he leaves it. Cloths wrung out of decoctions of herbs or warm spirits and water, should be applied to the part, and small quantities of warm gum arabic tea or barley water be taken frequently. A grain of opium every two hours, will be found useful. *Strong coffee*, without sugar or cream, sometimes acts like a charm in soothing the pain: twenty drops of the spirits of turpentine taken on a lump of sugar every half hour, is said, by high authority, to do the same. If the irritation of the stomach is very great, the effervescing draught, with 30 or 40 drops of laudanum, may be tried. When the pain, &c. is somewhat abated, the bowels should be opened, either with castor oil or Epsom salts. The uva-ursi, as before mentioned, is one of the most valuable remedies in all diseases of the kidneys that we have. *Blisters in all such cases are never to be applied.* Persons subject to this distressing complaint, should be careful to avoid acids and fermented liquors of all kinds, including the red wines, beer, pickles, &c. For a common drink, soft-water, or the seltzer and soda waters are to be preferred. When any threatening symptoms are perceived, recourse should be had to the uva-ursi, in small doses of ten or twelve grains, with half a grain of opium three times a day, to be continued for weeks.

INFLAMMATION OF THE BLADDER.

SYMPTOMS. Pain and swelling of the bladder,—the pain increased by pressure,—a frequent desire to make water, which either comes away in small quantities or is totally suppressed.

CAUSES. Inflammation of surrounding parts,—stone in the bladder,—suppression of urine.

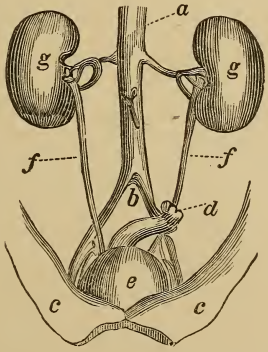
TREATMENT. Make warm application of water and narcotics over the bladder: put him into the warm bath. Inject mucilaginous and laxative clysters, and pursue the exact plan of treatment that is recommended for the *cause* from which it may proceed. See Suppression of Urine, &c.

DIFFICULTY OF URINE.

SYMPTOMS. A frequent desire to make water, attended with pain, heat, and difficulty in doing so,—a fullness in the bladder.

CAUSES. The urine having been retained too long —Spanish flies taken internally,—gravel,—blisters, and all the causes of inflammation of the bladder,—inflamed prostate gland, &c.

TREATMENT. If it arise from simple irritation by blisters, &c. plentiful draughts of warm liquids, as gum arabic or barley water, will be sufficient to remove it. If from any other cause, a bladder half filled with warm water, or cloths wrung out of a warm decoction of herbs, should be kept constantly applied over the parts, and mild clysters of thin starch be frequently injected.



The Ureters, running from the Kidneys to the Bladder.—*a* Aorta. *b* Bifurcation. *c* Abdominal muscles turned down. *d* The rectum cut and tied. *e* Bladder. *f f* Ureters. *g g* Kidneys.

SUPPRESSION OF URINE.

SYMPTOMS. Pain and swelling of the bladder,—violent and fruitless attempts to make water, attended with excruciating pain, &c.

CAUSES. The same as in a difficulty of urine.

TREATMENT. As a total suppression of urine is always attended with considerable danger, there should be no delay in endeavouring to remove it. Chloroform the patient to relieve the spasms, or he should be placed in the warm bath. While he is there a laxative and anodyne clyster must be got ready, which is to be given as soon as he leaves it, and frequently repeated. In the mean time the warm fomentations, and a bladder of hot water must be kept applied, and No. 23 be taken every three or four hours. If there be any difficulty in procuring it, twenty drops of laudanum in a little warm barley or rice water, or a decoction of the dandelion will answer in stead. Warm sweet oil or milk and water may be injected up the urethra, and 6 or 8 grains of camphor in a little milk be taken every hour.

If no relief is obtained by these means, consult a physician, and ascertain whether the trouble is located in the kidneys, in the passage from the kidneys to the bladder, in the bladder, or in the urethra. There are instruments, called catheters, of various kinds, sizes and shapes, made to draw off the urine from the bladder; and by having an experienced hand pass one of these up the urethra, into the bladder, and if several ounces of urine is drawn off, it will be recognized that the trouble is with the urethra or bladder, but if no water is obtained, then the trouble is above the bladder. In cases where there is retention in bladder, the longer the urine is allowed to remain, the more the bladder is distended, and the more irritating the urine becomes to the mucus lining; and accordingly the more aggravated the condition grows, and the chances of relief are more diffi-

cult; therefore by having the right kind of catheter selected, and passing it early, the patient is spared much discomfiture, as well as the risk of a more serious termination. In suppression of urine from any cause, the patient will die in a few days unless the flow of urine can be re-established.

INCONTINENCY OF URINE.

SYMPTOMS. An involuntary dribbling or flow of urine.

CAUSES. A relaxative or paralytic affection of the bladder,—excessive venereal indulgences,—a diseased state of the bladder,—stone in the bladder.

TREATMENT. If it arises from a relaxation or weakness of the parts, use the cold bath daily, apply blisters between the fundament and the bag, and have recourse to bark and the different tonics, as iron, &c. recommended in indigestion. Twenty or thirty grains of the uva ursi, twice or three times a day, with half a pint of lime water after each dose, may also be tried. If the disease is occasioned by a palsy of the parts, the tincture of Spanish flies may be of service. If a stone in the bladder is the cause, apply to a surgeon to cut it out. In the mean time, some kind of vessel should be attached to the penis, to receive the urine, in order to prevent it from excoriating the parts.

STONE IN THE BLADDER.

SYMPTOMS. A frequent desire to make water, which comes away in small quantities at a time, and is often *suddenly interrupted*, the last drops of it occasioning pain in the head of the yard,—riding over a rough road, or any irregular motion, or jolting

causes excruciating pain and bloody urine, accompanied with a constant desire to go to stool,—itching of the fundament,—a numbness in the thighs, &c.—retraction or drawing up of the testicle.

TREATMENT. Apply to a surgeon.

DIABETES, OR AN IMMODERATE FLOW OF URINE.

SYMPTOMS. Frequent discharges of large quantities of urine, which is sometimes of a sweet taste,—skin dry,—bowels costive,—appetite voracious,—weakness, and gradual emaciation of the whole body.

CAUSES. A shattered constitution,—immoderate venereal indulgences,—spirituous liquors,—cold,—suppressed perspiration.

TREATMENT. The principal remedy for the cure of this disease, consists in confining the patient to a diet composed exclusively of *animal* food. Blisters may, also, be applied over the kidneys and kept open with the savine ointment. The prescription No. 24,* has proved eminently successful. The carbonate of ammonia, in doses of 11 or 12 grains three times a day, is strongly recommended, upon high authority. In addition to these, opium in liberal doses, exercise on horseback, the flesh-brush, and flannel next the skin are not to be neglected. The bowels should be kept open by rhubarb.

DROPSY OF THE BELLY.

SYMPTOMS. A swelling of the belly, from water contained in it, preceded by a diminution of urine,—dry skin, and oppression at the breast.

* Of Dr Ferriar, of Manchester, England.

CAUSES. Diseases of various kinds,—intemperance,—a dropsical disposition.

DISTINGUISH IT *from tympany* by the absence of the rumbling of the intestines, belching, colic, and *hollow sound* which characterize the latter:

From other diseases, by placing one hand on the belly, and gently striking it on the opposite side with the other, when a wavy or tremulous motion will be felt, resembling that occasioned by the agitation of water in a basin

TREATMENT. One of the most valuable remedies for dropsy is found in the elaterium, (the dried extract) one fourth of a grain of which is a dose. As it is a most active article, it is proper to begin with one sixteenth of a grain daily, which may be *cautiously* increased to a fourth, or till it is found to exert its full powers by bringing away large watery stools. From an ounce to an ounce and a half of *cream of tartar*, dissolved in water, and taken daily, has frequently succeeded in removing the complaint. As objections are sometimes made to the *quantity* of this latter article it is necessary to use in this way, half an ounce of it, with one or two grains of gamboge, every other day, may be substituted for it. Six grains of calomel, with one or two of gamboge, taken twice or three times a week, have cured the disease. Bathing the feet before going to bed, and taking immediately after 20 grains of Dover's powder, by producing copious sweating, has had the same effect.

Dropsy is, notwithstanding, a difficult disease to cure. It must be attempted, however, by the use of such articles as we have mentioned, beginning with the first, and if it fail, proceeding to the next and so on. If the swelling increases to such an extent as to be absolutely insupportable, send for a surgeon to draw off the water. At the decline of the disease, the strength must be supported and restored by bark, wine and the tonic plan recommended for indigestion

TYMPANY.

SYMPTOMS. The symptoms of tympany or a collection of air either in the intestines themselves, or in the cavity of the belly, are more or less gradual in their approach. When the disease lies *within* the intestines, it commences with wind in the stomach and bowels, which keeps up a constant rumbling, belching, &c.—colic,—costiveness,—diminution of urine,—want of appetite, &c. When it is in the cavity of the belly and outside the intestines, the swelling is much greater, and very elastic, when it is struck, giving a hollow sound like a drum,—there is no belching, &c.

CAUSES. Weakness of the bowels,—intemperance, —a vegetable diet.

DISTINGUISH IT *from dropsy*, which see.

TREATMENT. If the complaint is within the intestines, keep the nozzle of a clyster pipe up the fundament, to permit the wind to pass through it, in order to diminish the pressure on the bowels. Warm mint tea, ginger, horse-radish, ether, Cayenne pepper, spices and essential oils, with laxative medicines and clysters, should be freely used, with a moderately tight broad bandage round the belly. If these means do not answer the end, warm and active purges must be resorted to, such as the compound tincture of senna, or jalap, or any of the Nos. 25, 26, or 27. If no relief is obtained and the costiveness continues obstinate, apply pounded ice to the belly. Rubbing it with turpentine may, also, prove useful It is very apt to terminate in death.

GONORRHŒA.

SYMPTOMS. A tingling sensation at the end of the penis, which swells, looks red and inflamed, followed

by a discharge of matter that stains the linen, first of a whitish, then of a yellow or green colour,—a scalding pain in making water,—involuntary and painful erections.

TREATMENT. There are two kinds of this affection, the mild and the virulent. The first is of so trivial a nature, that plentiful draughts of any soothing liquid, as barley water or flaxseed tea, with a low diet, are sufficient to remove it. The second produces effects more or less violent on different persons, and occasionally resists for months, every remedy that can be thought of. If the disease resist the low diet, &c. apply to a surgeon, and beware of trusting to the recipes of *friends*, or of employing their *injections*. Strictures and other horrid consequences are the most probable results of tampering with this disorder. If at sea, however, you may use an injection composed of five grains of sugar of lead and eight or ten of white vitriol, dissolved in half a pint of soft water.

GLEET.

SYMPTOMS. The weeping of a thin glairy fluid, like the white of an egg, from the penis, caused by a long continued clap.

TREATMENT. A gleet is exceedingly difficult to get rid of, and frequently defies every effort that is made for that purpose. It must be attempted, however, by the daily use of the cold bath, and 30 drops of the muriated tincture of iron, taken three times a day, for months, in a glass of the cold infusion of bark.

N. B. This complaint if let alone or badly treated is apt to end in an exhausting and incurable disorder. You had better seek the best medical advice within your reach.

INVOLUNTARY EMISSIONS.

SYMPTOMS. An involuntary emission of semen during sleep, inducing great emaciation and debility.

CAUSES. Excessive venery,—onanism,—every thing that weakens the seminal vessels.

TREATMENT. Abstain from all sexual indulgence and lascivious ideas or books,—sleep on a hard bed,—use the cold bath daily, with a generous and nourishing diet. Chalybeate water and all the different preparations of iron, with the cold infusion of bark and elixir of vitriol, as directed for indigestion, should be freely employed.

STRICTURES.

SYMPTOMS. A difficulty in passing water, which, instead of flowing in a full stream, either dribbles away, twists like a corkscrew, or splits and forks in two or three directions. They are occasioned by strong injections,—long continued or ill treated clap. The cause, however, is not always to be satisfactorily ascertained.

TREATMENT. Apply to a surgeon: you can do nothing to rid yourself of the disease but this,—terrible are the consequences of meddling with it yourself.

SYPHILIS.

SYMPTOMS. Chancres and buboes are among the first symptoms of this dreadful malady, which, if not checked, goes on to cause an ulcerated throat, nodes, a destruction of the bones and cartilages of the nose, and the palate. The voice is lost,—the hair falls off,—foul spreading ulcers show themselves all over the

body, the stench of which is insupportable, and before he dies, the miserable victim to it becomes a loathsome mass of corruption.

A CHANCRE at first resembles a pimple, with a little pit or depression containing matter, which soon becomes *an ulcer, with an irregular thickened edge, covered with a tough, ash-coloured matter, the basis of which is hard and surrounded by inflammation.* It is generally found on the foreskin or head of the penis.

A BUBO is an enlargement of a gland in the groin, beginning in *a small hard lump, not bigger than a bean, and increasing to the size of a hen's egg.*

A NODE is a hard tumour formed on a bone.

TREATMENT. N.B. Apply to a surgeon on the *first* indication or even *suspicion* of this most horrible disease,—if taken at an early period, and *properly treated*, it is soon cured,—but if neglected, or improperly attended to, its consequences are too dreadful to be detailed: a lingering death, and a putrescent body, are what you may expect. Give no confidence to the recipes of *friends*, but apply to a physician at once.

CANCER OF THE PENIS.

SYMPTOMS. A small tumour like a wart, upon the head of the penis or foreskin, followed by inflammation and ulceration, which discharges a thin disagreeable fluid,—after a time, a cancerous fungus is produced, attended by a most intolerable burning and darting pain.

TREATMENT. Apply at once to a surgeon, who will amputate it. Death is the only alternative.

VENEREAL WARTS.

Crops of these animal mushrooms sometimes spring up round the head of the penis, or on the foreskin. If *flat*, they may be destroyed by caustic; if mounted on a *stem* or foot-stalk, by tying a piece of thread *tightly* round it.

MERCURIAL DISEASE.

This is a complaint whose symptoms nearly resemble the secondary ones of pox, consisting of blotches on the skin,—pains at night,—ulcers in the mouth, &c. &c. Owing to the *liberal* use of calomel, it is now a very common disease, which is frequently confounded (even by medical men) with genuine syphilis.

Treatment. Abandon every mercurial preparation,—use the decoction of guaiacum and sarsaparilla,—the warm bath, and a *mild* nourishing diet. If possible, remove to a healthy situation in the country. It is also necessary to take an occasional purgative of the flowers of sulphur or of rhubarb.

DROPSY OF THE SCROTUM.

Symptoms. A collection of water, which is first perceived at the *bottom* of the scrotum, increasing in size as it advances upwards, and forming a tumour of the shape of a pear. If examined as directed for dropsy of the abdomen, the *wavy* motion may be felt, and if a candle be placed *behind* it, it becomes partly transparent.

Distinguish it *from a rupture*, by the tumour not

swelling when the patient coughs,—by the tumour having commenced at the *bottom* of the scrotum, &c.

From a diseased testicle, by its softness,—the natural colour of the skin,—absence of pain,—transparency, &c. &c.

TREATMENT. When it is first discovered, attempt to disperse it, by bathing it frequently with No. 28. The only certain cure is an operation, for which, as there is no pressing danger, apply to a surgeon.

ENLARGED SPERMATIC VEIN.

SYMPTOMS. A hard knotty and irregular swelling of the vein, which sometimes increases to a large size. When lying down, the swelling diminishes, which distinguishes it from a dropsy of the parts.

TREATMENT. Suspend the testicles, or keep the patient on his back,—apply the lotion No. 28, to the parts,—the cold bath.

CANCER OF THE TESTICLE.

SYMPTOMS. The testicle is enlarged,—hardened,—craggy and unequal in its surface,—painful on being handled, with irregular pains shooting up the groin, into the back, *without any previous inflammation, disease, or external violence.*

TREATMENT. Apply immediately to a surgeon. Castration, and that at an early stage of the disease, is the only remedy that can save life. Be careful, however, to distinguish it from simple swelling of the testicle by inflammation, blows &c. Which see

IMPOTENCY.

This is of three kinds. The first arises from an original defect in the organs of generation. The second, from local debility of the parts, brought on by excessive venery, onanism, or some preceding disease: while the third originates from *fear*, excess of passion, or want of confidence at the moment of coition.

The first is incurable. The second must be treated by the general principles and remedies already pointed out for restoring the strength of the system, consisting of the cold bath, preparations of iron, bark, elixir of vitriol, generous diet, exercise, and by *steadily avoiding the causes which may have produced it.* The remedies for the third, must be sought for, in calming excessive agitation, and acquiring, by habits of intimacy, that confidence they are sure to produce.

GOUT

Symptoms. Pain in the *small* joints, generally in the ball of the great toe,—the parts swollen and red, —the attack coming on in the night. Such are the *striking* symptoms of this disease, and generally the first that are noticed. It is occasionally, however, preceded by all those attendant on indigestion. In the advanced stages chalky lumps are formed in the joints.

Causes. A too free use of the good things of this world,—a disposition to it from parents.

Distinguish it *from rheumatism*, by the pain, &c. being in the *small* joints, &c.

Treatment. If the patient be young, vigorous,—having the disease for the first time, give citrate of magnesia, confine him to a low diet, and treat it exactly as an *inflammation* arising from any other

cause. To procure sweating, Dover's powder may be taken on going to bed. As soon as the inflammation, by these means, is reduced, *use the cold bath, and take strong exercise on foot, daily,—avoid high seasoned food, feather beds, wine, acids and fermented liquors,* for the remainder of your life! Gout is the child of indolence and intemperance, and to avoid it, the above means must be employed, and *steadily persevered in.*

If, however, the patient is old or infirm, and subject to regular fits of it, he must not be handled so roughly. The most perfect rest should be observed, and the parts lightly covered with fleecy hosiery, and flannel cloths wetted with the lotion No. 29, made milk-warm. The bowels should be opened with some warm laxative. In a regular fit of the gout, this is all that can be done. The degree of warmth that is applied to the part, must be regulated by the feelings of the patient, who if weak, may use a nourishing diet, if strong, a more abstemious one.

If from any cause, the disease leaves the extremities and flies to the *stomach*, apply mustard poultices and blisters to the soles of the feet and ankles,—give large doses of ether and laudanum, hot wine, brandy, &c. and endeavour by all such means (including the hot bath) to send it back again.

If the head be the part it is transferred to, and apoplexy is produced by it, take away 15 or 20 ounces of blood *immediately*, and give active purgatives, as 10 or 15 grains of calomel, followed by senna tea, or Epsom salts. If in a few hours, the patient is not relieved, the head continuing confused and painful, and the pulse full and throbbing, apply cold vinegar and water constantly to the part.

INFLAMMATORY RHEUMATISM.

Symptoms. Pain, swelling and inflammation in

some one (or several) of the larger joints. The pain shifting from one part to another,—all the symptoms of fever,—pulse full and hard,—tongue white,—bowels costive and urine high coloured.

Causes. Cold,—suppressed perspiration,—wearing damp clothes, &c.

Treatment. If fever is present, reduce it and the acidity of the urine and system by doses of 5 to 8 grs. of bicarbonate of potash. If constipation be present, give a saline purge. After the fever is removed, give 5 grs. of iodide of potassium and 10 drops of tr. colchicum 3 times daily,—if much pain is present, add a $\frac{1}{4}$ to $\frac{1}{3}$ of a grain of sulphate of morphia. If there are periods of intermission in the disease, give large doses of quinine, 20 to 30 grs. in 24 hours. Lemon juice and sugar, half ounce hourly, has been found to be good. If the heart becomes affected, give 5 gr. doses of the iodide of potassium mixture with tr. of digitalis, and apply cups over the region.

CHRONIC RHEUMATISM.

Symptoms. A chronic rheumatism is nothing more than one of long standing. It is unaccompanied by fever, and makes its attacks on every change of weather, on getting wet, &c., &c. It is frequently caused by inflammatory rheumatism, and sometimes seems to exist as a primary affection.

Treatment. I have found no one plan of treatment in this species of the disease, so effectual as the following: purge with senna and salts, every other day,—rub the parts well with the liniment No. 30, apply a blister of the parts affected, or paint with tr. of iodine, and on going to bed 30 drops of laudanum, with a tea-spoonful of the tincture of

guaiacum. It is to be recollected, that this is applicable only to chronic cases; if there is fever, &c. it will do much damage. The best safeguard against the complaint is the use of flannel next the skin, winter and summer.

HIP-JOINT DISEASE.

SYMPTOMS. Excruciating pain in the hip-joint and knee,—the leg becomes first longer, then shorter than its fellow. When lying down the foot rolls *outwards*, the buttocks appearing flatter than usual,—lameness,—after a while abscesses in various parts of the thigh,—hectic fever, &c.

CAUSES. Scrofula.

TREATMENT. This should be treated carefully and constitutionally; the limb must be kept at rest, and put into a proper machine. Cod liver oil and tonics must be given freely, with all the remedies necessary for the treatment of scrofula. A generous diet of good food, beef and wine, must not only be allowed, but insisted on. Reducing the system by purging or bleeding should never be allowed, as the system of all scrofulous patients should be built up and not reduced if a cure is wished to be arrived at.

DROPSY OF THE KNEE JOINT.

SYMPTOMS. The joint swells, the skin remaining of a natural colour. By placing the hand on one side of it, and striking it gently on the other, the wavy or fluctuating motion is perceptible,—steady pressure on *one* side will raise the *other* above its natural level.

CAUSES. A dropsical disposition,—debility,—rheumatism,—scrofula,—syphilis.

TREATMENT. Keep a *perpetual* blister on the joint,

or make a caustic issue below it, on the inside of the leg,—cold water from the spout of a tea kettle, is a useful application. Camphorated mercurial ointment to the knee, and mercury taken internally have sometimes been of service.

WHITE SWELLING.

Symptoms. Deeply seated pains in the knee, unattended at first by swelling, which at last comes on with increase of pain. After a while the joint enlarges,—matter is sometimes discharged,—hectic fever follows, and cuts off the patient.

Causes. Scrofula,—blows,—inflammation from any cause.

Treatment. If from scrofula, use the *general* remedies directed for that disease, and apply a blister to the part, which must be kept open by the savine ointment, for months: if from blows, apply the blister as before, keep up the system with tonics, and give a good generous diet. If in spite of these precautions, the disease continues to advance, amputation is the only resource.

PIECES OF CARTILAGE IN THE JOINTS.

Portions of cartilage are sometimes formed in joints, where they act like any other foreign body of a similar texture. While in the hollows of the part, they give no uneasiness, but as they frequently slip in between the ends of the bones, causing excruciating pain, it is sometimes necessary to cut them out. For this purpose apply to a surgeon. As all openings into the cavities of the joints are attended with much danger; unless the *pain* be insupportable, it is better

to endure the inconvenience than to run the risk of the operation.

SCROFULA, OR KING'S EVIL.

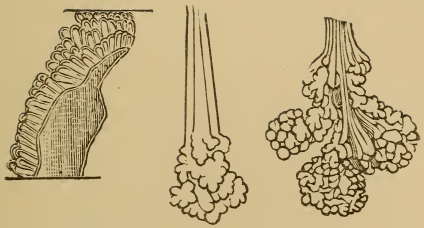
SYMPTOMS. Hard and indolent swellings of the glands of the neck, that when ripe, instead of *matter*, discharge a whitish curd. It mostly occurs in persons of a fair complexion, blue eyes, and delicate make. In bad cases, the joints swell with great pain, —the limbs waste away,—the ligaments and bones are destroyed, when hectic fever soon relieves the patient from his misery.

CAUSES. Inheriting the disease from parents,—moist cold air,—a poor diet, &c.

TREATMENT. Sea-water is a great remedy in scrofula. It is to be used daily as a bath, and a small portion of it taken internally. Made milk-warm, it forms one of the most excellent local applications that we have. Against the enlargement of the glands, paint with tr. of iodine and give iodide of potassium inwardly. The diet should be mild and nourishing. Scrofula is seldom, if ever, cured. If the glands become permanently enlarged, and by no means can be reduced, then apply to a surgeon for their removal if unsightly or troublesome.

INFLAMED GLANDS.

Every gland in the body is subject to inflammation Whenever one of them is perceived to be in this state, which may be known by the swelling and pain, measures should be taken to reduce it, for fear of its proceeding to what is called scirrhus, and finally to cancer. Leeches, blisters, and all the remedies directed for such purposes, should be actively em-



GLANDS.

ployed, among which tr. iodine and a good diet must not be neglected.

SCIRRHUS.

SYMPTOMS. A hard tumour, unequal on its surface, and not very sensible, giving but little or no pain on being handled.

TREATMENT. Apply to a surgeon without loss of time for fear of a cancer.

CANCER.

SYMPTOMS. A tumour, differing from the preceding one by being surrounded with enlarged veins. It is, also, more painful, the skin being sometimes discoloured and puckered. The whole tumour is particularly *heavy*, and at last breaks into a malignant ulcer or sore, whose edges are raised, ragged, uneven, and curl over like the leaves of a flower,—white streaks or bands cross it from the centre to the circumference. Acute and darting pains accompany both this and the preceding stage of the disease.

TREATMENT. There is but one remedy that can be depended on for the cure of this painful and inveterate complaint, and even that should be resorted to early, in order to ensure success. *All the diseased parts must be cut out.* Arsenic, corrosive sublimate, phosphate of iron, and a thousand other articles, have been recommended, both externally and internally, but without any effectual advantage. To relieve the pain, opium may be taken in large doses. A very low diet (such as is barely sufficient to support life) of milk and vegetables, will produce the same effect. The sore should be defended from the air, by some mild ointment. Powdered chalk, scraped carrots,

fresh hemlock leaves, and powdered charcoal, may be used for the same purpose.

GOITRE.

SYMPTOMS. A tumour in the fore-part of the throat seated in a gland close to the projection called "Adam's apple."

CAUSES. These are not ascertained. They are supposed to consist of some peculiarities in the water of those places where it is common.

TREATMENT. Goitre is incurable. When taken at the very beginning of the complaint, however, and in young persons, it is *said* to have been dispersed by a course of mercury, joined to frictions of the part with strong mercurial ointment.

FAINTING.

CAUSES. Sudden and violent emotions of the mind, —bleeding,—diseases of the heart and its great vessels.

TREATMENT. Lay the person on the back, and raise the feet, then open the doors and windows, and sprinkle cold water in the face. Smelling salts may be held to the nose.

APOPLEXY.

SYMPTOMS. Falling without sense or motion,—profound sleep,—face livid or flushed,—eyes wide open or half closed, and immovable,—breathing low labouring and irregular.

CAUSES. A rushing of blood to the head, excessive fat in persons with a short neck,—gluttony,—violent

exercise,—intense heat,—anger,—hearty meat suppers,—blows on the head,—intoxication, &c. &c

TREATMENT. If the pulse remain full,—the face flushed, &c. take away twenty ounces or more of blood *on the spot*, remove the cravat, unbutton the shirt collar, and place the patient in bed, with the head and shoulders a little elevated. The windows and doors must be thrown open, and no more persons than are necessary, be allowed to remain in the room. The head is to be shaved and cupped, a blister applied to the back of the neck and the head, and mustard poultices to the feet. An active purgative* should always be administered, as soon as the patient is bled, and its operation assisted by repeated clysters. If by these means, the breathing is not easier, and the pulse softer, bleed again, and again.

If, however, the patient is old and infirm, and the attack has come on more gradually, if the pulse is weak, and the face pale, do not bleed, but give immediately a warm purgative, apply the blisters, &c. If it arises from swallowing vegetable poisons, give an active emetic, as 30 grains of white vitriol, and act as directed in cases of similar accidents. In this second kind of apoplexy, stimulants, as hartshorn to the nose, &c. may be used; in the first, they are very injurious, and should never be employed.

SUN-STROKE.

This proceeds from exposure to the sun's rays, and exhibits the same symptoms as apoplexy, commencing with vertigo, loss of sight, ringing in the ears, &c. and must be treated by large and repeated bleedings, and in every other respect as directed for apoplexy.

* If the patient cannot swallow pills, try liquids; if neither, have recourse to a strong purgative clyster

EPILEPSY.

SYMPTOMS. A fit, in which the patient falls to the ground in a convulsion,—the eyes are distorted and turned up,—hands clenched,—foaming at the mouth,—convulsions,—the whole ending in a deep sleep.

CAUSES. Sudden fright,—anger,—injuries done to the nerves,—unknown.

TREATMENT. Keep the patient from hurting himself, by holding his hands, legs, and particularly his *head*, which he is apt to dash violently against the ground or surrounding objects. A piece of soft wood should be placed between his teeth, to prevent his tongue from being bitten. This is, in general, all that can be done during the fit. Give twenty gr. doses of bromide of potassium three times daily.

CATALEPSY.

SYMPTOMS. A sudden suspension of the action of the senses, and of volition, the body and limbs preserving the position given them, while the action of the heart and lungs continues.

TREATMENT. Electricity, cold douches, chloroform inhalation, and irritation of the skin during the spasm. In the intervals, if from intermittents, quinine, if from cold, warm and sulphur baths, if from hysteria or catamenia difficulties, anemia, &c., use the general remedies recommended therefor.

PARALYSIS OR PALSY.

SYMPTOMS. A partial or complete loss of the powers of motion, and the sensibility of particular parts of the body,—the pulse soft and slow.

CAUSES. Apoplexy,—pressure on the nerves, from blows, wounds, &c.—the fumes of lead, mercury, &c.

TREATMENT. The treatment must be according to the cause. By the idiopathic and pure nervous palsy, attention must be called to the spinal column as the seat of the disease, for which nux vomica, zinc, stramonium, steel baths, cold baths, and moxas down the column, are of service. Magnetism down the back, from the back of the head to the end of the back-bone, is often of use. It is well always in the use of electricity to begin with a weak current. The continual electrical stream upon the limb has produced cures. After the misuse of mercury or mercurial preparations a palsy of the limbs takes place, for which opium or morphium is recommended; also electrical baths. If occasioned by pressure on a nerve or by the misuse of too strong coffee, tea, or tobacco, the cause must be removed.

TETANUS, OR CRAMP

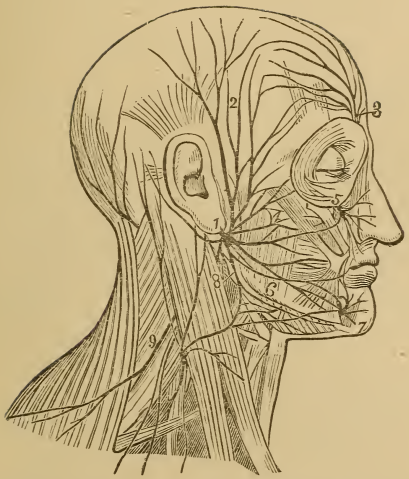
There are several very long and very learned names affixed to this disease. When it is confined to the muscles of the neck and jaws, locked-jaw is the common and expressive term for it. The affection, however, is always the same, requires similar treatment, and consists in an involuntary contraction and stiffening of a part of the muscles, the senses remaining perfect.

LOCK JAW—TETANUS.

SYMPTOMS. Pain and stiffness in back of neck, —eventually head cannot be rotated,—difficulty in swallowing and speaking,—lower jaw becomes stiff and cannot be opened,—spasmodic rigidity or cramping of nearly all the muscles so that they feel hard and knotty,—body becomes rigidly straight or bent backwards like a bow.

CAUSE. Bacillus tetani found in soil of many localities, which gain access to the body by way of a wound or break in the skin.

TREATMENT. The feet should be perfectly clad to insure against scratches and injuries. All wounds, no matter how trivial, made by nails or splinters, or by anything which might carry a particle of dirt beneath the skin, should be carefully cleansed. In this way the disease may be prevented. If disease is recognized to be coming on place pieces of soft wood between the grinders, on both sides, so that the jaws will not close entirely. Perfect quietude. Feed the patient liquid foods by means of a rubber tube inserted between the teeth, or through the nostrils, or by giving rectal enemas. Have the antitoxin for tetanus injected by a physician. This comes nearer to arresting the disease than any other treatment. Other remedies are given merely to relieve distressful symptoms, without hopes of a cure; if, however, the patient is relieved for a time, physical indurance may tide till recovery. Ten grains of chloral hydrate and 15 grains or bromide of potash may be given every two hours for several doses. When the muscles are contracting give a few whiffs of chloroform until the muscles relax. Opium and morphine often do excellent service in this disease. Burn all dressings, to prevent others from being infected.



DISTRIBUTION OF THE FACIAL NERVE AND OF THE BRANCHES OF THE CERVICAL PLEXUS.

1, The facial nerve at its emergence from the stylo-mastoid foramen. 2, temporal branches communicating with (3) the frontal branches of the fifth or trifacial nerve. 4, infra-orbital branches, communicating with (5) the infra-orbital branches of the fifth nerve. 6, maxillary branches communicating with (7) the mental branch of the fifth nerve. 8, cervico-facial branches. 9, the spinal accessory nerve giving off a branch to the trapezius muscles.

FACIAL NEURALGIA.

This disease is also called tic-douloureux, and varies in severity from a moderate distress to that of an unbearable intensity.

SYMPTOMS. Darting pain in the region of one or more branches of the facial nerve, usually affecting only one side of the face at a time, and remains in a circumscribed area, over the temple, cheek or side of chin. These paroxysms, as a rule, last not more than a second, recurring rapidly, with intervals, in some cases, when there is no pain whatever. It is rare that swelling occurs and all signs of inflammation are absent. Occasionally there is intolerance of light; the eye on the affected side is blood-shot; and there is an extra flow of saliva.

CAUSE. Debility,—anemia,—malarial poisoning, decayed teeth,—exposure to cold, etc.

TREATMENT. Seek to find the cause, and remove that as early as possible. If there are decayed teeth, have a dentist treat it; if there is malaria, take large doses of quinine; if anemia, take iron and arsenic; and if debility, endeavor to build up the general physical condition. To relieve the pain, large and frequent doses of castor oil act more satisfactorily than any other remedy. This is harmless and worthy of a trial in every instance. It should be taken in not less than two tablespoonful doses every two to four hours. It may be taken in foaming porter or in brandy, to avoid the disagreeable taste. Antipyrine in 5 to 10 grain doses repeated every hour for four or six doses will generally soothe the pain; but sometimes it may be justifiable to use an opiate. Warmth applied externally generally affords some relief, and this may be done by means of a rubber hot water bottle or cloth bag filled with dry bran which has been heated in an oven. It is always advisable to rapidly saturate the system with

quinine; take 10 drop doses of the tincture of the Chloride of iron in an empty gelatine capsule before each meal, and 5 to 8 drops of Fowler's solution of arsenic in water, also at meal time. Eat plentifully of dark meats.

SCARLET FEVER.

SYMPTOMS. Langour or restlessness, followed by chilliness,—headache,—sore throat,—fever,—skin hot and dry,—tongue moist and white,—bright red at tip and edges,—papillae swollen and red, giving the appearance of a strawberry to the tongue;—rapid pulse, great thirst, frequently nausea and vomiting. The eruption first appears as bright-red pin-head spots, which gradually run together and make the skin of uniform scarlet tint. After four or five days' duration the rash disappears and a bran-like peeling off of the skin takes place—the skin sometimes coming away in large flakes.

CAUSE. A bacteria peculiar to the disease found in the secretion of mouth and throat and in the scales from the skin.

DISTINGUISH it from measles by the spots coming out on the second day of the fever (in measles they seldom appear until the fourth day); by their color which is that of a boiled lobster, whereas in the measles it is of a dark red.

TREATMENT. This being a contagious disease, the first thing to do is to isolate the patient in a room free from draughts and inequalities of temperature, give hot lemonade or hot drinks at intervals to bring out eruption, with plenty of cool drinks between times. Use liquid citrate of magnesia if bowels are constipated,—sponge with water to relieve restlessness and reduce fever, following the directions for sponging given for simple fever. Where there is

itching add one teaspoonful of carbolic acid to each quart of water that is used for sponging. If there is much fever take one tablespoonful of the spirits of Mendereri every two hours. After the peeling off has begun, annoint the body twice daily with carbolized vaseline, which prevents the scales from flying and allays the itching. Serious complications are liable to set in at any stage of this disease, and for that reason they must constantly be guarded against. Acute inflammation of the kidney and of the middle ear, are two of the most frequent complications. The best preventive against kidney trouble, is the copious drinking of water throughout the disease; and the best against ear complications, the frequent cleansing of the throat with No. 36. On account of Scarlet Fever being very contagious, the utmost precautions regarding disenfection must be followed.

DANCE OF ST. VITUS.

SYMPTOMS. Irregular and convulsive motions of the limbs and head, generally of the arm and leg of one side only. It varies, however, in different persons, and is frequently counterfeited by beggars.

CAUSES. Weakness of the nerves,—worms,—posions,—fright, &c.

TREATMENT. The daily use of the cold bath, with the Peruvian bark, has often succeeded in curing the complaint in young subjects. In addition to these, any of the preparations of iron, No. 41, combined with large doses of musk, opium, camphor, &c. may be tried. Active and long continued purging sometimes produces the happiest results.

ANGINA PECTORIS.

SYMPTOMS. An acute pain at the lower end of the breast bone, shooting into the left arm,—great difficulty of breathing,—anxiety,—palpitation of the heart,—a feeling of suffocation. It usually comes on while ascending a hill, or going up stairs.

CAUSES. The vessels of the heart being turned into bone,—an accumulation of blood in the heart and its vessels.

TREATMENT. During the fit, let the patient inhale sulphuric ether. If fainting, dash cold water in his face. Should this not arouse him in a few minutes, apply a blister to the chest. Strips of linen, moistened with the solution below,* applied several times a day to the breast bone, for a month, are said to have effected complete cures. They act by producing a crop of *pimples*, on the appearance of which, the disease declines.

Persons subject to this complaint, should avoid all fermentable food, an excess in eating or drinking, taking care to live quietly, and to keep the bowels open. Saline purgatives, followed by opium, to lessen the spasm, with the warm bath, and a perpetual blister or plaster of the tartar emetic ointment to the chest, are perhaps the best remedies that can be employed.

*Tartar emetic, one drachm. Spirits of camphor, half an ounce. Boiling water, one pint. Mix.

ERYSIPELAS, ST. ANTHONY'S FIRE.

Symptoms. In the beginning the symptoms are the same as in nearly all infectious fevers. viz.: Shivering, headache,—quickened pulse,—furred tongue and sometimes deranged stomach, then there follows a line of manifestations peculiar to this affection. There is a tingling and burning sensation, with stiffness and swelling of some particular part; and here a bright red spot appears, which soon spreads and turns to a dark purple. If the face is attacked, it extends itself on the scalp, and the eyelids generally swell so that the patient can hardly see, and often the features are obliterated. The swelling may be superficial, not causing a great amount of distress, or it may be deep seated and diffuse and produce intense suffering, owing to the tension on the skin. In the severe cases delirium is commonly present. After a few days the redness and swelling begin to fade away over the region first attacked. The duration of the disease varies from 7 to 10 days, to several weeks, and at the termination, watery vesicles, blisters or scales appear where the inflamed cuticle existed.

Cause. The *streptococcus erysipelatous*, which infects the attacked part through a break in the skin or mucus membrane.

Treatment. Special care should be observed that the germs of the disease be not conveyed to those having wounds, or to women about to be or who have recently been confined, for if

they should become infected, dire consequences would surely ensue. The fever may be reduced by one to two drop doses of the tincture of aconite and by the spirits of Mendereri. In case the bowels are constipated, keep them open with the liquid citrate of magnesia. When there is delirium, give calomel ⅛ to ⅛ grain doses every hour, until bowels are too free, and apply an ice cap to the head. To the parts affected, apply lintine, which is kept saturated with the following mixture: ichthyol, ½ ounce, camphorated oil, 7½ ounces. When the face is affected and the camphor vapor distresses the eyes, use the same proportions of ichthyol and cottonseed-oil. Carbolized vaseline spread over the part, also makes a satisfactory dressing. This disease if at all severe should be under the care of a physician.

GERMAN MEASLES—THREE-DAY MEASLES—RÖTHELN.

SYMPTOMS. Much the same as true measles, though considerably milder. Slight sorness of throat. A *rose* colored eruption appears, with the first symptoms of illness, which usually lasts but three days, hence the name *three-day measles.*

CAUSE. A contagion identified solely with this disease.

TREATMENT. Rarely any is needed, beyond remaining quietly within an evenly heated apartment.

MEASLES.

SYMPTOMS. Usually about eight days elapse after exposure before the disease shows signs of development. The early symptoms are weariness,—aching of head, back and limbs,—soreness of muscles,—chilliness,—fever comes on rapidly,—eyes red and watery,—sneezing,—nose running —cough,—and frequently vomiting. On the *fourth* day, small crimson points break out, first on the face, then gradually over the body. They are in clusters, running together, and on passing the hand over them, are found to be a little raised. On the *fifth* or *sixth* day, the vivid red is changed to a brown, the eruption fades, the fever abates, and a dandruff-like peeling off may follow.

CAUSE. A particular contagion—of the eruptive fevers, this is the most contagious.

DISTINGUISH IT *from small pox* and all other diseases, by the dry cough and hoarseness,—by the appearances of the eyes, which are red, swollen, and loaded with tears.

TREATMENT. Confine patient in bed in a well ventilated room, free from draughts, kept at a temperature of from 68° to 70°. The room must be darkened because exposure of the eyes to light may cause them to be permanently weakened. Give plenty of cool drinks, and feed patient on liquid foods, chiefly milk. If eruption does not come out freely, give hot drinks until perspiration ensues—hot mustard foot bats accelerates this. Regulate the bowels with magnesia. The fever is to be treated the same as a simple fever without any fear of evil effects from the tepid sponging. Guard against taking cold, and any signs of lung-trouble are to be regarded as possible premonitions of a serious complication. For cough, inhale the steam from boiling vinegar, for five to ten minutes every one to four hours.

Lot.

CHICKEN-POX.

SYMPTOMS. Fever,—inability to sleep,—pain in different parts of the body,—a crop of small pimples or points on the back, which by the *second day* are changed into little blisters, which are ripe on the *third* and disappear before the *fifth day*, without forming true pus or matter, and leaving no marks or pits behind them.

DISTINGUISH IT *from small-pox*, by the eruption coming out on the back,—by the mildness of the fever,—by the fluid contained in the vesicles or blisters not being true pus, and by the whole falling off in scales on the fifth day.

TREATMENT. Confine the patient to his bed,—keep him cool and quiet, and give him a dose of salts. This is all that is necessary.

COW-POX.

SYMPTOMS. A pimple at the spot where the matter was inserted, which gradually undergoes certain regular changes, that characterize the complaint.

CHANGES OF GENUINE COW-POX.

On the second day, or sooner, from the time of the operation, a small speck of inflammation is to be perceived, which, on the *fourth day* is a pimple, surrounded by a circle of inflammation. On the *fifth*, this pimple changes to a vesicle containing a thin fluid. On the *sixth*, this vesicle is more perfect, its margin forming a regular circle; it is also a *little flat-*

tened on the top, the centre of which is of a dark colour. On the eighth or ninth day, slight chills, flushes of heat, &c. are sometimes felt, accompanied by swelling of the pustule, and pains shooting up into the arm pit, the glands or kernels of which occasionally swell.

On the tenth or eleventh day, the pustule is surrounded by a circular, vivid, inflammatory blush that is very beautiful. *This is regarded as a decisive proof of the presence of genuine cow-pox.* On the eleventh day, the centre of the pustule begins to grow of a dark colour, which gradually increases to a brown or mahogany one by the end of the second week, when it begins to leave the skin, from which it is finally separated.

Treatment. If the pain, inflammation and swelling, are excessive, reduce them by cold applications, a dose of salts, low diet and rest.

SMALL-POX.

Symptoms. Inflammatory fever,—drowsiness,—pain in the pit of the stomach, increased by pressure,—pain in the back,—vomiting,—on the *third* day the eruption breaks out on the face, neck and breast, in little red points that look like flea-bites, and which gradually appear over the whole body. On the *fifth* day, little round vesicles, filled with a transparent fluid, appear on the top of each pimple. The eruptive fever now declines. On the *ninth* day the pustules are perfectly formed, being round and filled with a thick yellow matter, the head and face also swelling considerably. On the *eleventh* day, the matter in the pustules is of a dark yellow colour, the head grows less, while the feet and hands begin to swell. The secondary fever now makes its appearance. The pustules break and dry up in scabs and crusts, which at last fall off, leaving *pits*, which sufficiently mark the cause

Such are the symptoms of the distinct or mild small-pox, but it frequently assumes a more terrible shape, in what is called the confluent. In the latter all the symptoms are more violent from the beginning The fever is a typhus,—there is delirium, preceded by great anxiety,—heat,—thirst,—vomiting, &c. The eruption is irregular, coming out on the *second* day in patches, the vesicles of which are flatted in, neither does the matter they contain turn to a yellow, but to a brown colour Instead of the fever going off on the appearance of the eruption, it is increased after the *fifth* day, and continues throughout the complaint. The face swells in a frightful manner, so as to close the eyes,—sometimes putrid symptoms prevail from the commencement.

CAUSES. Contagion.

DISTINGUISH IT *from chicken-pox*, which see.

TREATMENT. Place the patient in a cool airy room, and let him be but lightly covered with bed clothes. Purge him every other day with salts, and give him twenty or thirty drops of laudanum every night. The diet should consist of panada, arrow root, &c. and his drink consist of lemonade or water. If from any cause, the eruption strikes in, put him into the warm bath, give a little warm wine-whey, or the wine alone, and apply blisters to the feet. Obstinate vomiting is to be quieted by the effervescing draught, with the addition of thirty drops of laudanum.

In the confluent small-pox, the treatment must be varied as it inclines more or less to the inflammatory or putrid type. If it inclines to the first, act as directed for the distinct kind, if to the last, employ all those means directed in putrid fever. If the eyes are much affected, it will be necessary to bathe them frequently with warm milk, and to smear the lids with some simple ointment.

ITCH.

SYMPTOMS. An eruption of small pimples between the fingers, on the wrists, and over the whole body, which form matter, and are attended with an intolerable itching.

CAUSES. Contagion.

TREATMENT. There are several varieties of this troublesome complaint, as the rank, watery, pocky, scorbutic, &c. A very bad kind of it is contracted by touching dogs that have the mange. The remedy is sulphur. It should be used internally with cream of tartar, so as to purge freely, and at the same time be applied externally, in the form of an ointment. Equal portions of white vitriol, flour of sulphur, and laurel berries, made into a thin liniment with olive oil, is highly recommended as a local application. The following practice is said to be effectual. Take of flour of sulphur two ounces, and mix it well with two drachms of nitre, throw the mixture into a warming pan containing live coals, and pass the pan between the sheets in the usual manner. The patient, stripped to his skin, now gets into bed (taking care not to let the fumes escape), when the clothes should be tucked in all round him. Repeat the process ten or twelve times The diet in all cases should be very low.

HERPES.

SYMPTOMS. Broad itchy spots of a reddish or white colour, breaking out in different places, which at last run into each other, forming extensive ulcers,—after a time they become covered with scales, which fall off, leaving the surface below red,—while the disease heals in one part, it breaks out in another

CAUSES. Want of cleanliness,—low diet,—living in low damp situations,—a peculiarity of constitution.

TREATMENT. The ointment of the oxide of zinc, is a very common application. Washing the parts with a solution of corrosive sublimate in water, one grain to the ounce, is, however, to be preferred. The citrine ointment may also be tried. If these fail, apply a strong solution of blue vitriol to the ulcers, and take a grain of calomel morning and evening. The decoction of sarsaparilla and guaiacum, may be used with them. If the disease resists the mercury, try Fowler's solution of arsenic, in doses of five drops three times a day, to be *cautiously* increased as directed for intermitting fevers. The warm bath should never be neglected in cutaneous complaints.

SCALD HEAD

SYMPTOMS. Inflammation of the skin of the head which ends in a scabby eruption that extends over the whole scalp.

CAUSES. Want of cleanliness,—putting on the hat, —using the comb, or sleeping in the bed of a person who has it.

TREATMENT. Shave the head close, wash it well with warm soap and water, and cover it thickly with fresh powdered charcoal. One or two of the pills No. 32, should be taken every night, on going to bed. The bowels must be kept open by magnesia or Epsom salts. If this fails, try the citrine or tar ointment to the parts, with a liberal use of the compound decoction of sarsaparilla. The diet should be wholesome and nourishing, avoiding spirituous liquors and salted meats. The warm bath should not be neglected

RING WORM.

SYMPTOMS. An eruption running in curved lines, —generally in a circle, that itches when rubbed or when the body is heated.

TREATMENT. Into one ounce of water, throw more blue vitriol than it will dissolve, so as to form what is technically called a saturated solution. Touching the ulcerated parts with this liquid several times through the day, will alone frequently cure it. If this fails, apply the citrine or tar ointments. In very obstinate cases, recourse may be had to the pills No. 32, or to the usual doses of Fowler's solution. If it affects the head, shave it. In this as well as all other diseases of the skin, the greatest cleanliness is necessary.

NETTLE-RASH.

SYMPTOMS. An eruption similar to that caused by the stinging of nettles, whence its name. On rubbing the skin which itches, the eruption will suddenly appear, remain for a moment and then vanish, breaking out in some other spot. The parts affected are swelled,—at one time presenting the appearance of welts as from the stroke of a whip-lash, and at another, that of white solid bumps.

CAUSES. Supposed to be some irritating matter in the stomach or bowels.

TREATMENT. A few doses of Epsom salts, and a little attention to the diet, which should be mild, are generally sufficient to remove it. If it proceed from eating poisonous fish, or any unwholesome food, take an emetic, &c. as directed in such cases. A bath in a very mild solution of washing soda will allay the itching.

BLOTCHED FACE.

SYMPTOMS. An eruption of hard, distinct tubercles or pimples, generally appearing on the face, but sometimes on the neck, breast and shoulders.

CAUSES. A peculiarity of constitution,—irregularity or excess in eating or drinking.

TREATMENT. There are a great many varieties of this affection, some of which have been separately treated of by *Willan* and other writers on diseases of the skin, to whom I would refer any one who is particularly interested therein. Notwithstanding all that has been said on the subject, there is no disease more difficult to get rid of than this. Where it arises from suppressed perspiration, high seasoned food, or intemperance, it may indeed be relieved by the warm bath, by sweating, purging, and a low diet; but when it exists in persons who have always led temperate lives, and in whom it seems constitutional, medicine has but little effect on it. In all cases, however, the following plan may be adopted: take a dose of Epsom salts twice or thrice a week, use the warm bath daily, live on plain, mild food, and drink nothing but water. If after a fair trial of several months, this should not succeed, try Fowler's solution, or the pills No. 32. with the decoction of guaiacum and sarsaparilla. The various cosmetics and astringent applications recommended for these affections, are always prejudicial, for although they sometimes repress the eruption, they occasion more severe and dangerous complaints.

SCURVY

SYMPTOMS. Bleeding of the gums,—teeth loose,—spots of various colours on the skin, generally livid, debility,—countenance pale and bloated,—pulse

small, quick, and intermitting. In its advanced stage the joints swell, and blood bursts out from different parts of the body.

CAUSES. A long exposure to cold moist air,—a diet consisting exclusively of salted animal food,—want of wholesome nourishment.

TREATMENT. Remove the patient to a new and healthy situation, where the air is dry and pure; give him plenty of fresh vegetables, such as spinage, lettuce, beets, carrots, and scurvy-grass. A small proportion of *fresh* animal food should be taken with them. This, with oranges, lemons and sugar, or lemonade, spruce beer with wine and water, are generally sufficient to cure the complaint. The nitric vinegar* is strongly recommended for the same purpose. If there is much pain in the bowels, laudanum must be used to relieve it. If the breathing is difficult, or there is much pain in the breast, apply a blister to it, *for on no account should blood be drawn in scurvy.* A tea spoonful of charcoal well mixed with half a pint of vinegar, forms an excellent gargle to clean the gums and ulcers in the mouth. Those on the body may be washed with the same, or lemon juice, pure, or mixed with water. The yeast or charcoal poultice, may also be applied to them with advantage. To restore the tone of the system, recourse must be had to the Peruvian bark, with the elixir of vitriol, the muriated tincture of iron, exercise, &c. &c

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* It is made in the following manner. Dissolve three or four ounces of nitre (saltpetre) in one quart of vinegar. The dose is from half an ounce to an ounce. If the strength of it occasions any inconvenience, add a little water, or diminish the quantity of the dose.

OF TUMOURS

By the word tumour is meant a swelling of any part of the body. They are of different kinds, arise from various causes, and are more or less dangerous according to the nature of their contents and the spot they occupy.

OF RUPTURES.

Ruptures are tumours caused by the protrusion of a part of the bowels through certain natural openings. They are divided into reducible, irreducible, and strangulated. They mostly occur in men in the groin and bag.

CAUSES. Straining in any way, as at stool,—vomiting,—lifting heavy weights,—violent exercise, as jumping, running, &c.—a natural weakness of the parts.

REDUCIBLE RUPTURES.

SYMPTOMS. A small swelling, free from pain, and generally soft, the colour of the skin over it remaining unaltered. While standing up, the swelling *increases*, on lying down, it *decreases*, the patient being able to return the parts himself, while in that position. The swelling is also *increased* by coughing, sneezing, or straining as if at stool. If he is flatulent, a rumbling sensation may be felt in it.

TREATMENT. The patient should place himself on his back, with his head and shoulders a little elevated, draw up his knees to his belly, and (if in this position, the parts do not return of themselves) endeavour to push or knead them up into the belly

through the opening at which they come out, and which, if the tumour be in the groin or bag, *is an oval ring or slit*, in the groin, at the precise spot where the swelling first appeared. When this is effected, he should remain quiet until a truss can be procured, the spring of which must be passed round his body the pad be applied directly over the spot just mentioned, and held there with one hand, while the other passes the strap into the buckle and draws it sufficiently tight. Having done this, he should get up and walk about. If the swelling no longer appears, the truss is properly applied, if otherwise, take it off, return the parts as before and apply it again; when, if on rising, walking about, *slightly* coughing, &c. the parts are found to be well kept up, he may resume his ordinary business. The truss should be worn night and day, as long as he lives.

IRREDUCIBLE RUPTURES.

Symptoms. A rupture in which there is no pain, yet that cannot be returned into the belly, caused by an increased bulk of the parts, or their having formed adhesions, or grown fast to adjoining parts.

Treatment. A rupture thus situated must be left to itself. The patient should be extremely cautious in his diet, and in avoiding costiveness, by the use of clysters, or if necessary, laxative medicines. He should also be very careful to protect the tumour from blows, always recollecting that it is in danger of strangulation.

STRANGULATED RUPTURES.

Symptoms. The first mark of a rupture being strangulated, or of pressure being made on it, is cos-

tiveness. The tumour, which before was insensible becomes painful, the pain being most severe at the spot where the strangulation or stricture exists, and extending from thence across the belly, which becomes swollen and hard. The pain resembles that which the patient would suppose to arise if a cord was drawn tightly across it. The pain continues to increase, and is augmented by pressure; sneezing, coughing, nausea and vomiting, first of the contents of the stomach, and afterwards of the intestines ensue, —great anxiety,—restlessness, and a quick hard pulse. Hiccups,—cold clammy sweats,—weakened respiration, and a pulse so feeble as hardly to be perceived, announce the approach or presence of mortification.

TREATMENT. Lose not a moment in sending for the best medical aid that may be within reach. In the mean time, having placed the patient as directed for reducible ruptures, apply both hands on the tumour with *gentle*, but gradually increasing pressure, or grasp the tumour *gently* but *steadily* with one hand, while with the fingers of the other you endeavour to *knead* or push up the parts nearest the ring in the groin, applying the pressure in the same course the parts have taken in their descent. If this fails, seize the tumour between the finger and thumb of the *left hand*, close to where it enters the belly, and carry them downwards, with a moderate pressure, so as to dislodge any excrement which may be there, while with the *right* you endeavour to push in the gut.

If you cannot succeed in two or three attempts, place the patient *in a warm bath* and try it again. If still foiled (you have no time to waste in unavailing attempts), cover the tumour with pounded ice, snow, or any very cold application. Should this fail, let the patient inhale ether or chloroform to perfect narcotism, and when thoroughly under the anesthetic, seize that moment to return the parts, as before directed.

Should the rupture still remain irreducible, there are but two resources left, the tobacco clyster, and an operation One half of the clyster should be in-

jected; if it occasions sickness and a relaxation of the parts, endeavour to return them: if the first half does not produce these effects, throw up the remainder of it, and when relaxation comes on, endeavour, as before, to push up the gut. As regards the operation no one should ever attempt it but a surgeon. Large doses of laudanum allay vomiting, and are otherwise beneficial; in all cases of this kind, they should never be omitted.

REMARKS.

Ruptures are liable to be confounded with some other diseases, as dropsy of the bag, enlarged spermatic vein, &c. The modes of distinguishing them have already been pointed out, although it must be confessed that with respect to the latter, considerable difficulty exists. If the disease is a rupture, by placing the patient on his back, returning the tumour and holding the fingers firmly over the opening, and then desiring him to rise, the swelling will not appear. If, on the contrary, it is an enlarged spermatic vein, it will be found to be greater than ever. The latter has also a peculiar *ropy* feel, as if a bundle of cords were in the bag.

ANEURISM.

SYMPTOMS. A small tumour without pain or redness, attended by a peculiar throbbing,—it disappears on pressure, and returns the moment it is removed. As the tumour increases in size, the throbbing or beating of the artery grows less perceptible. It is generally found in the ham, thigh, neck, groin and arm. It is divided into true and false.

CAUSES of the true are unknown, those of the false are a wound or rupture of an artery.

DISTINGUISH IT by the beating or throbbing, which

is diminished by pressing on the artery above the tumour, and by the latter disappearing on pressure and returning when it is removed.

TREATMENT. In the early stage, apply a soft and elastic cushion to the tumour, and bind it tightly over it by a bandage. The diet should in all cases be extremely low, just sufficient to preserve life, and no more. If the patient is of a full habit, it would be well to reduce. This plan steadily and vigorously pursued for a long time, has *sometimes* effected complete cures. There is nothing, however, but an operation that can be depended on, wherefore, as soon as any swelling of this nature is perceived, no time should be lost in procuring surgical assistance. If the tumour is left to itself, it will finally burst, and death be the *inevitable* consequence.

FLESHY TUMOURS.

SYMPTOMS. Small warty projections, which, as they increase in size, drag down the skin from the neighbouring parts, which forms a kind of stem or foot-stalk on which the tumour hangs. They are hard, full of vessels, and are neither painful nor inflamed.

TREATMENT. When very small, they may be frequently touched with caustic, which will destroy them. If large, the ligature or knife must be employed, for which purpose have recourse to a surgeon.

STEATOMATOUS TUMOURS.

SYMPTOMS. A small, doughy swelling, which gradually increases, and sometimes grows to an enormous size. It is soft and free from pain,—the colour of the skin emaining unaltered.

TREATMENT. These tumours, technically called steatomatous,* are merely inconvenient from their bulk. They can only be removed by the ligature or knife, for which purpose apply to a surgeon.

ENCYSTED TUMOURS.

SYMPTOMS. A distinct, hard, circumscribed swelling, gradually growing larger until a slight inflammation comes on, when it becomes a little painful, soon after which, a fluctuation is distinctly to be perceived. As it progresses the vessels become enlarged,—it seldom exceeds the size of an egg.

DISTINGUISH IT *from an abscess* by the absence of pain and inflammation.

TREATMENT. Pass a seton through the tumour when matter is formed, or apply to a surgeon to dissect it out.

GANGLION.

SYMPTOMS. A small, movable, elastic swelling, with little or no pain, or alteration in the skin, situated under or between tendons or sinews, and generally near to a joint,—it sometimes hinders the motions of the part.

CAUSES. The collection of a fluid within the sheath of a tendon.

TREATMENT. Apply pressure, blisters, or frictions of strong camphorated mercurial ointment to the tumour. If these are of no avail, make a small puncture in it with the point of a sharp lancet, let out its

* From a Greek word which means suet, the contents of the tumour resembling that substance.

contents and apply pressure to the part, so as to make the two sides of the sack or bag grow together.

BOILS.

SYMPTOMS. A hard, circumscribed, *inflamed* and very painful tumour, of a conical shape, seldom exceeding in size a pigeon's egg.

TREATMENT. If the patient is of a full habit, bleed and purge him with Epsom salts. A soft poultice of warm bread and milk, or rye meal, should always be applied to the boil, and frequently changed. If the pain is excessive, a tea spoonful of laudanum may be mixed with each one. In a few days matter will be formed, when it may be let out with a sharp lancet

CARBUNCLE.

A deeply seated, hard, immovable and circumscribed tumour, which appears generally on the back, shoulders, &c. About the middle it is of a dark red or purple colour, being much paler or mottled round its edges. It is attended with an intolerable itching and burning pain, and at last becomes a kind of sloughing ulcer.

TREATMENT. This will depend upon the state of the constitution. Most generally there is great weakness, in which case, the diet must be generous. Bark, with the elixir of vitriol and opium to relieve the pain, are to be frequently employed. As a local remedy, a blister ranks very high. It should be placed directly on the part. After being cut, it may be succeeded by a basilicon plaster. A modern writer strongly recommends the solution of arsenic, as a local remedy in this disease. Pledgets of linen dipped in the liquor, are to be laid on the swelling, and fre

quently renewed. When matter begins to form, apply a bread and milk poultice, and treat it in every respect as a common ulcer.

WHITLOW, OR I ELON.

Symptoms. An inflamed tumour at the end of the finger. It is of three kinds. The first is situated immediately under the skin, around the nail. The second in the cellular membrane, the pain and swelling of which are much greater than in the first, and the matter much longer in forming. The third lies under the sheath or covering of the tendons of the fingers, and is infinitely more violent, painful and dangerous, than either of the others.

Treatment. If of the first description, open the little abscess with a needle and let out the matter, which should be prevented from forming, if possible, by bathing the part with camphorated spirits. The second should be dispersed by purging, and by leeches and blisters. If the inflammation is not reduced by these means, with a *very sharp* penknife, make an early and free incision in the sides of the last joint of the finger *down to the bone.* Suffer the blood to run for a few minutes, and then treat it as a common cut. The same practice should be followed with regard to the third.

PILES.

Symptoms. A pain in the fundament when going to stool,—on examination small tumours are perceived to project beyond its verge. They are of two kinds, the *blind* and *bleeding*. They may also be internal and external.

CAUSES. Costiveness,—sedentary habits,—aloetic purgatives,—riding on horseback.

BLIND PILES.

TREATMENT. A diet of rye mush and milk, strictly adhered to for a length of time, will very frequently cure the disease. If they project, are swelled and painful, apply twenty or thirty leeches to them, and cold applications. The common gall ointment is a very soothing application. Balsam copaiva in doses sufficiently large to purge freely, is also highly recommended. A *radical* cure, however, is only to be sought for in the knife or ligature, for which apply to a surgeon. If the pain is very great, laudanum may be taken to ease it.

BLEEDING PILES.

TREATMENT. If the bleeding is considerable, inject a solution of alum or a decoction of oak bark, or make pressure upon the vessels by introducing a sheep's gut, tied at one end, into the fundament, and then filling it with any astringent fluid by a clyster pipe. This evacuation is sometimes salutary, and it often requires much judgment to know if it should be stopped or not.

OF ABSCESS.

SYMPTOMS. The formation of matter under the skin, or in any part of the body, preceded by inflammation, and marked by a dull heavy weight,—by the pain becoming more acute and darting,—by a pecu-

liar throbbing,—by the swelling becoming more elevated and soft to the touch. If the tumour is not opened it bursts.

CAUSES. Inflammation from injuries, or stimulus of any kind.

TREATMENT. Apply a soft and warm bread and milk, or linseed poultice to the part, and endeavour to hasten the formation of matter. When this is evident, let it out with a sharp lancet. If the patient is weak, let him have a generous diet with wine, porter bark, &c.

PSOAS ABSCESS.

SYMPTOMS. A weakness across the loins accompanied by a dull pain. After a while, the pain shifts from the back to the thigh and hip, becoming more darting and severe. The glands in the groin swell, and at last a *soft tumour* is perceived at the lower edge of the groin, or by the side of the fundament,—the swelling increases to a large size, and sometimes extends itself down the thigh.

CAUSES. Scrofula,—straining of the back,—blows, &c.

DISTINGUISH IT *from a rupture*, by the preceding pain in the loins, and by the fluctuation.

TREATMENT. In the early stage, bleed and purge the patient, keep him on a low diet, and apply a large blister over the lower part of the back. Confinement in bed is absolutely necessary. When matter is formed, make an opening into the tumour in the following manner—push a sharp lancet first *through the skin*, then obliquely upwards under it, and then by depressing the point pierce the swelling itself. In this way the abscess is opened without the danger that attends wounds of large cavities. If it is small, the whole of the matter may be allowed to flow away at once; if large, after drawing a pint, close the wound

for a few hours and then finish the operation. The lips of the wound must be kept together by sticking plaster. As there are many vessels of importance in the groin, care must be taken to avoid wounding them, and if a surgeon can be had, he should always be applied to for this purpose. The disease is said to have been cured by blistering the tumour, and keeping it open with the savin ointment.

OF FISTULA

SYMPTOMS. An abscess or ulcer in the neighbourhood of the fundament, preceded by an inflamed hard swelling, which gives much pain. If there is no communication between the gut and the sore, it is called an incomplete, if there is, a complete fistula.

TREATMENT. As the tumour is often taken for piles, attention should be paid to distinguish them. In all cases apply forty or fifty leeches to the part, keep the bowels perfectly loose by a diet of rye mush, and confine the patient to his bed. If, however, the formation of matter cannot be hindered, the swelling must be opened early and a poultice applied to it, when the disease occasionally heals like any other sore, but nine times out of ten it forms a callous winding abscess, through which (if it is complete) excrement, &c. often pass. When it arrives at this point, nothing but an operation can ever be of any service.

There is another species of fistulous opening, which follows the obstruction, caused by strictures, &c. in the urinary passage. The water not being able to flow through the natural canal, makes its way out between the bag and the fundament, constituting what is called fistula in perineo. It may almost be called an incurable disease; at all events none but a surgeon can do any thing to relieve it.

OF ULCERS.

By ulcers are meant holes or sores in the skin and flesh, which discharge matter. They are divided into inflamed, fungous, sloughing, and indolent, ulcers in the neighbourhood of carious bone, and those attended by a peculiar diseased action.

INFLAMED ULCER.

SYMPTOMS. The margin of the sore is ragged, —the skin ending in a sharp edge around it. The neighbouring parts are red, swelled and painful, the bottom of the ulcer is uneven and covered with a white spongy substance. In place of a healthy yellow matter, it discharges a thin fluid; the surface of it bleeds on the slightest touch.

TREATMENT. Keep affected part elevated so that it is on a level with the body, and amend the general health. For local treatment, put two teaspoonfuls of the 50 per cent. solution of carbolic acid into a pint of water that has been previously sterilized by boiling, and wash the ulcer, then dry it with plegets of aseptic cotton, dust over it a complete layer of boric acid, cover it with aseptic gauze, and wrap with bandage. To remove dressing, unwind bandage, cut away all gauze that is free, and then soak loose all that is adherent, in a carbolized solution prepared as above, and dress as before. Renew dressing every day to every fourth day according to the discharge and the way dressings are soiled. By following these directions, and never using any ointments, or greasy condiments to come in contact with the ulcer, it will generally improve rapidly, and the fungous and indolent varieties of ulcers will rarely be met with.

UNGOUS ULCERS.

SYMPTOMS. The presence of large round granulations rising above the level of the adjoining parts, or what is commonly called proud flesh, marks this species of ulcer.

TREATMENT. After washing and drying the same as in inflamed ulcers, touch the granulation with caustic, and then apply the same dressing as for inflamed ulcers.

SLOUGHING ULCER.

SYMPTOMS. The death of parts of an ulcer which mortify and fall off,—generally attended by fever and pain.

TREATMENT. The diet should be generous, and take some alterative tonic, such as 20 drops of the syrup of the iodide of iron, in water, three times daily at meal time. Wash and dress as in inflamed ulcers, removing all the dead portions whenever possible.

INDOLENT ULCER.

SYMPTOMS. The edges of the skin are thick, raised, smooth and shining. The points of new flesh are glossy, and the appearance of the whole ulcer is that of an old one in which the healing process is at a stand.

TREATMENT. Follow the directions for fungous ulcers, touching the caustic to all the indolent parts, then waiting several days or until the ulcer becomes indolent again, when it should be touched as before. Take the syrup of the iodide of iron.

CARIOUS ULCER.

SYMPTOMS. Ulcers situated over or near carious (or dead) bone, they are thereby prevented from healing,—they frequently penetrate deep into the parts, forming a canal with hard and indolent sides, that discharges an offensive unhealthy matter.

TREATMENT. Sometimes the dead bone may be thrown off and come away itself; but there is always danger of the caries spreading into the healthy bone and doing extensive damage, and for this reason it is advisable to have a surgeon remove all the diseased bone, at once, which has the advantage of cutting short the patient's suffering and having the ulcer healed within a few days.

SCORBUTIC ULCER.

See SCURVEY.

SCROFULUS ULCER.

See SCROFULA.

VENEREAL ULCER.

See SYPHILIS.

CHAPTER III.

Of Accidents.

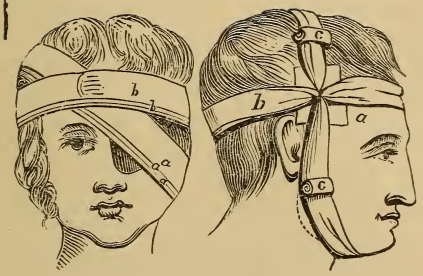
GENERAL DIRECTIONS.

WHENEVER a blow has been inflicted, whether by being thrown from a horse,—out of a carriage,—by falling from a height, or in any other way, the first thing is to examine for any bruised or wounded places or broken bones, and apply ice or cold water cloths over the parts. This rule admits of but one exception, and that is, when the violence has been so great as nearly to extinguish all the powers of life, in which case it is proper to wait for symptoms of returning animation. To hasten these, a little wine and water, or other stimulus may be given.

If, in consequence of a broken bone or other injury, the patient is unable to walk, take a door from its hinges, lay him carefully on it, and have him carried by assistants to the nearest house. If no door or sofa can be procured, two boards, sufficiently long and broad, should be nailed to two cross pieces, the ends of which must project about a foot, so as to form handles. If in the woods, or where no boards can be procured, a litter may be formed from the branches of trees. In this way a hand-barrow may be constructed in a few minutes, on which the sufferer may be properly carried.

If he has been wounded and bleeds, the bleeding must be stopped before he is removed.

Having reached a house, lay him on a bed, and undress him with care and gentleness. If any diffi-



MODE OF BANDAGING.

culty arises in getting off his coat or pantaloons, rip up the seams, rather than use force. This being done, proceed to ascertain the nature of the injury.

This may be either simple or compound; that is, it may be a contusion or bruise, a wound, fracture or dislocation, or it may be two or all of them united in one or several parts.

A CONTUSION is the necessary consequence of every blow, and is known by the swelling and discoloration of the skin.

WOUNDS are self-evident.

FRACTURES are known by the sudden and severe pain,—by the misshapen appearance of the limb,—sometimes, by its being shortened,—by the patient being unable to move it without excruciating pain,—*but most certainly*, by grasping the limb above and below the spot where the fracture is supposed to exist, and twisting it different ways, when *a grating* will be felt, occasioned by the broken ends of the bone rubbing against each other. If the swelling, however, is very great, this experiment should not be made until it is reduced.

DISLOCATIONS, or bones being out of joint, are known by the deformity of the joint when compared with its fellow,—by the pain and inability to move the limb,—by its being longer or shorter than usual, and by the impossibility of moving it in particular directions.

OF CONTUSION.

If slight, bathe the part frequently with cold vinegar and water for a few hours, and then rub it well with brandy, or spirits of any kind. Should it be very great, or so as to have affected the whole body, which may be known by a general soreness, bleed and purge the patient, and confine him to a diet of rice water, lemonade, panada, &c. If fever comes

on, repeat the bleeding, purging, &c. In all cases of this nature, be sure the water is regularly evacuated for it sometimes happens that in consequence of the nerves of the bladder being *palsied* by the blow, the patient feels no desire to pass it, though the bladder be full. If a suppression ensues, pass a catheter, if possible, or procure assistance for that purpose.

OF SPRAINS.

Plunge the part sprained into very cold water, and hold it there as long at a time as you can bear it—for several hours—then rub it well with camphorated spirits. If the accident has happened to a joint, as in the ankle, and it remains weak, pour cold water on it from the spout of a tea kettle, held at a distance, several times in the day. The most serious effect, however, resulting from contusion, is when the blow is applied to the head, producing either concussion or compression of the brain.

CONCUSSION OF THE BRAIN.

SYMPTOMS. The patient is stunned,—his breathing is slow, drowsiness,—stupidity,—the pupil of the eye rather contracted,—vomiting. After a time he recovers.

TREATMENT. Confine the patient in a quiet room,—apply ice bags to his head,—and open his bowels with liquid citrate of magnesia or epsom salts. He should be kept in a quite situation, and every measure taken to *prevent* inflammation of the brain.

For inflammation of the brain see cerebro-spinal meningitis.

COMPRESSION OF THE BRAIN

SYMPTOMS. Loss of sense and motion,—slow, noisy and laborious breathing,—pulse slow and irregular,—the muscles relaxed, as in a person just dead,—the pupil of the eye *enlarged* and will not contract even by a strong light,—the patient lies like one in an apoplectic fit, and cannot be roused.

TREATMENT. Open a vein and draw off sixteen or twenty ounces of blood, shave the head, and if possible, procure surgical assistance without delay, as there is nothing but an operation that can be of any avail.

OF WOUNDS.

Wounds are of three kinds, viz. incised, punctured and contused,—among the latter are included gun-shot wounds. The first step in all wounds, is

TO STOP THE BLEEDING.

If the flow of blood is but trifling, draw the edges of the wound together with your hand, and hold them in that position some time, when it will frequently stop. If, on the contrary, it is large, of a bright red colour, flowing *in spirts* or with *a jerk, clap your finger on the spot it springs from, and hold it there with a firm pressure,* while you direct some one to pass a handkerchief round the limb (supposing the wound to be in one) *above* the cut, and to tie its two ends together in a hard knot. A cane, whip-handle or stick of any kind, must now be passed under the knot (between the upper surface of the limb and the handkerchief) and turned round and round until the stick is brought down to the thigh, so as to make the handkerchief encircle it with considerable tightness. You may then take off your finger: if the blood still flows

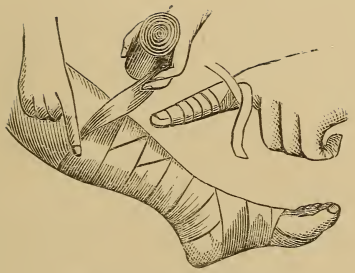
tighten the handkerchief by a turn or two of the stick, until it ceases. The patient may now be removed (taking care to secure the stick in its position) without running any risk of bleeding to death by the way.

As this apparatus cannot be left on for any length of time, without destroying the life of the parts, endeavour as soon as possible to secure the bleeding vessels, and take it off. Having waxed together three or four threads of a sufficient length, cut the ligature they form, into as many pieces as you think there are vessels to be taken up, each piece being about a foot long. Wash the parts with warm water, and then with a sharp hook, or a slender pair of pincers in your hand, fix your eye steadfastly upon the wound, and direct the handkerchief to be relaxed by a turn or two of the stick; you will now see the mouth of the artery from which the blood springs, seize it with your hook or pincers, draw it a little out, while some one passes a ligature round it and ties it up tight, with a double knot. In this way take up in succession every bleeding vessel you can see or get hold of.

If the wound is too high up in a limb to apply the handkerchief, do not lose your presence of mind,* the bleeding can still be commanded. If it is the *thigh*, press firmly in the groin,—if in the *arm*, with the hand-end or ring of a common door key, make pressure above the collar bone, and about its middle against the first rib which lies under it. The pressure is to be continued until assistance is procured, and the vessel tied up.

If the wound is on the head, press your finger firmly

* A little practice on himself or others, would soon enable any one to compress the great arteries in these two situations. And it is well worth the time spent in doing so. Many a man has bled to death before a surgeon could be procured, although surrounded with persons who, by the simple process above mentioned might have preserved him



MODE OF BANDAGING.

on it, until a compress can be brought, which must be bound firmly over the artery by a bandage. If the wound is in the face, or so situated that pressure cannot be effectually made, or you cannot get hold of the vessel, and the blood flows fast, *place a piece of ice directly over the wound, and let it remain there till the blood coagulates,* when it may be removed and a compress and bandage be applied

INCISED WOUNDS.

By an incised wound, is meant a clean cut. Attempt to stop the bleeding, wash away all dirt, and cleanse the wound perfectly clean with water which has been sterilized by boiling. If possible, add some antiseptic to this sterilized water, such as two teaspoonfuls of the 50 per cent. solution of carbolic acid to each pint of water; or some boric acid or corrosive sublimate. If the wound is too trivial to require suturing, cover with aseptic or antiseptic gauze and bandage. If suturing is necessary, summon a surgeon. Suturing is performed with cat-gut, kangaroo tendon, or silk, specially prepared for surgeon's use. After the wound is sutured, cover with gauze and bandage. By observing the strictest cleanliness, and letting nothing come in contact with the wound, except what has been sterilized, or made free from germs by antiseptics, there is usually a satisfactory healing, and very slight danger of blood poisoning, lock jaw, etc.

From what has been said, it must be evident that in all wounds, after arresting the flow of

blood and cleansing the parts, if necessary, the great indication is to bring their sides into contact throughout their whole depth, in order that they may grow together as quickly as possible, and without the intervention of matter. To obtain this very desirable result, in addition to the means already mentioned, there are two things to be attended to, the position of the patient and the application of a bandage. The position of the patient should be such as will *relax* the skin and muscles of the part wounded, thereby diminishing their tendency to separate.

A common bandage of a proper width, passed over the compresses moderately tight, not only serves to keep them in their place, but also tends by its pressure to forward the great object already mentioned. If, however, the wound is so extensive and painful that the limb or body of the patient cannot be raised for the purpose of applying or removing it, the best way is to spread the two ends of one or two strips of linen or leather with sticking plaster, which may be applied in place of the bandage, as follows: attach one end of a strip to the sound skin, at a short distance from the compress, over which it is to be drawn with moderate firmness, and secured in a similiar manner on its opposite side. A second or third may, if necessary, be added in the same way.

In all wounds, if violent inflammation comes on, reduce it by cold, purging, &c.; but if there is any reason to fear locked-jaw, give wine, porter, brandy, opium, and a generous diet.

PUNCTURED WOUNDS.

These are caused by sharp pointed instruments, as needles, awls, nails, &c. Having stopped the bleeding, withdraw any foreign body, as part of a needle, splinters, bits of glass, &c. that may be in it, provided it can be done easily; and if enlarging the wound a *little* will enable you to succeed in this, do so. Though it is not always necessary to enlarge wounds of this nature, yet in *hot weather* it is a mark of *precaution*, which should never be omitted. As soon as this is done, pour a little turpentine into the wound, or touch it with caustic. This practice may prevent locked-jaw, which is but too frequent a consequence of wounds of this description. Cover the part with antiseptic dressings, as in incised wounds.

CONTUSED WOUNDS.

Wounds of this nature are caused by round or blunt bodies, as musket balls, clubs, stones, &c. They are in general attended by but little bleeding; if, however, there should be any, it must be stopped. If it arises from a *ball* which can be easily found and withdrawn, it is proper to do so, as well as any piece of the clothing, &c. that may be in it; or if the ball can be distinctly felt directly under the skin, make an incision across it and take it out, but never allow of any *poking* in the wound to search for such things. Should the inflamma-

tion be great, apply ice bladder. Pain may be relieved by laudanam, and if the parts assume a *dark* look, threatening a mortification, cover them with a blister.

If the wound is much torn, wash the parts very nicely with warm water, and then (having secured every bleeding vessel) lay them all down in as natural a position as you can, drawing their edges gently together, or as much so as possible by stitches, if necessary.

POISONED WOUNDS, FROM BITES OF MAD DOGS, RATTLE-SNAKES, &c.

The instant a person is bitten either by a mad dog, rattle-snake, or any rabid animal, or reptile, he should apply a ligature, by means of the stick (see directions to stop bleeding, ante p. 125), above the wound, as tightly as he can well bear it, and *without hesitation or delay* cut out the parts bitten, taking along with them a portion of the surrounding sound flesh. The wound should then be freely touched with caustic, or have turpentine poured into it. By these means inflammation will be excited, and suppuration follow which may prevent the *usual* dreadful consequences of such accidents. As soon as the parts are cut out, take off the ligature.

Should the patient be too timid to allow the use of the knife, burn the wound very freely with caustic, and place in it a tuft of tow or cotton, well moistened with turpentine. The discharge of matter that follows, should be kept up for some time. The only reasonable chance of safety, is found in the above plan, all the vegetable and mineral productions that have been hitherto recommended as internal remedies being of very doubtful, if of any efficacy

STINGS OF BEES AND WASPS, BITES OF MOSQUITOS, &c.

Nothing relieves the pain arising from the sting of a hornet, bee, or wasp, so soon as plunging the part in extremely cold water, and holding it there for some time. A cold lead-water poultice is also a very soothing application. If a number of these insects have attacked you at once, and the parts stung are much swollen, lose some blood, and take a dose of salts.

Mosquito-bites may be treated in the same manner, although I have found a solution of hartshorn and water, made very strong, the most speedy and effectual in relieving the pain. Camphorated spirits, vinegar, &c. may also be used for the same purpose

WOUNDS OF THE LIMBS, &c.

OF THE EAR, NOSE, &c.

Wash the parts clean, and draw the edges of the wound together by as many stitches as are necessary. If the part is even completely separated, and has been trodden under foot, by washing it in warm water, and placing it *accurately* in its proper place by the same means, it may still adhere.

OF THE SCALP.

In all wounds of the scalp it is necessary to shave off the hair. When this is done, wash the parts well, and draw the edges of the wound together with sticking plaster. If it has been violently torn up in several pieces, wash and lay them all down on the skull again, drawing their edges as nearly together as poss

ble by sticking plaster, or if necessary, by stitches. Cover the whole with a soft compress of cotton and antiseptic gauze.

OF THE THROAT.

Seize and tie up every bleeding vessel you can get hold of. If the wind pipe is cut only *partly* through, secure it with sticking plaster; if it is completely divided, bring its edges together by stitches, taking care to pass the needle through the loose membrane that covers the wind pipe, and not through the wind pipe itself. The head should be bent on the breast, and secured by bolsters and bandages in that position, to favour the approximation of the edges of the wound.

OF THE CHEST

If it is a simple incised wound, draw the edges of it together by sticking plaster, cover it with a compress of linen, and pass a bandage round the chest. The patient is to be confined to his bed, kept on a very low diet, and to be bled and purged, in order to prevent inflammation. If the latter comes on, reduce it by copious and frequent bleedings.

Should it be occasioned by a bullet, extract it, and any pieces of cloth, &c. that may be lodged in it, if possible, and cover the wound with a piece of linen or preferably antiseptic gauze, taking care that it is not drawn into the chest. If a portion of the lung protrudes, return it without any delay, but as gently as possible.

OF THE BELLY.

Close the wound by strips of sticking plaster, and stitches passed through the skin, about half an inch from its edges, and cover the whole with a soft compress, secured by a bandage. Any inflammation that may arise is to be reduced by ice, purging, and a blister over the whole belly.

Should any part of the bowels come out at the

wound, if clean and uninjured, return it as quickly as possible; if covered with dirt, clots of blood, &c. wash it carefully in warm water previous to so doing. If the gut is wounded, and only cut partly through, draw the two edges of it together by a stitch, and return it; if completely divided, connect the edges by four stitches at equal distances, and replace it in the belly, always leaving the end of the ligature projecting from the external wound, which must be closed by sticking plaster. In five or six days, if the threads are loose, withdraw them gently and carefully.

OF JOINTS.

Bring the edges of the wound together by sticking plaster, without any delay, keep the part perfectly at rest, bleed, purge, and live very low, to prevent inflammation. Should it come on, it must be met at its first approach by applying an ice bladder or cloths dipped in cold water, over the joint, and by a blister covering the whole joint. If a permanent stiffening of the joint seems likely to ensue, keep the limb in that position which will prove most useful, that is, the leg should be extended, and the arm bent at the elbow. Wounds of joints are always highly dangerous, and frequently terminate in death.

OF TENDONS.

Tendons or sinews are frequently wounded and ruptured. They are to be treated precisely like any other wound, by keeping their divided parts together. The tendon which connects the great muscle forming the calf of the leg, with the heel, called the tendon of Achilles, is frequently cut with the adze, and ruptured in jumping from heights. This accident is to be remedied by drawing up the heel, extending the foot, and placing a splint on the *fore-part* of the leg, extending from the knee to beyond the toes which being secured in that position by a bandage, keeps the foot in the position just mentioned. The

hollows under the splint must be filled up with tow or cotton If the skin falls into the space between the ends of the tendon, apply a piece of sticking plaster, so as to draw it out of the way. It takes five or six weeks to unite, but no weight should be laid on the limb for several months.

OF FRACTURES.

The signs by which fractures may be known, having been already pointed out with sufficient minuteness, it will be unnecessary to dwell thereon; it will be well, however, to recollect this general rule: in cases where, from the accompanying circumstances and symptoms, a strong *suspicion* exists that the bone is fractured, it is proper to act as though it were positively ascertained to be so.

OF THE BONES OF THE NOSE.

The bones of the nose from their exposed situation, are frequently forced in. Any smooth article that will pass into the nostril should be immediately introduced with one hand, to raise the depressed portions to the proper level, while the other is employed in moulding them into the required shape. If violent inflammation follows, apply ice, and live on a low diet.

OF THE LOWER JAW.

This accident is easily discovered by looking into the mouth, and is to be remedied by keeping the lower jaw firmly pressed against the upper one, by means of a bandage passed under the chin and over the head. If it is broken near the angle, or that part nearest the ear, place a cushion or roll of linen in the hollow behind it, over which the bandage must pass, so as to make it push that part of the bone forward

The parts are to be confined in this way for twenty days, during which time, all the nourishment that is taken, should be sucked between the teeth. If in consequence of the blow, a tooth is loosened, do not meddle with it, for if let alone it will grow fast again.

OF THE COLLAR BONE.

This accident is a very common occurrence, and is known at once by passing the finger along it, and by the swelling, &c. To reduce it seat the patient in a chair without any shirt, and place a pretty stout compress of linen, made in the shape of a wedge, under his arm, the thick end of which should press against the arm-pit. His arm, bent to a right angle at the elbow, is now to be brought down to his side, and secured in that position by a long bandage, which passes over the arm of the affected side and round the body. The fore-arm* is to be supported across the breast by a sling. It takes from four to five weeks to re-unite.

OF THE ARM.

Seat the patient on a chair, or the side of a bed, let one assistant hold the sound arm, while another grasps the wrist of the broken one and steadily extends it in an opposite direction, bending the fore-arm a little, to serve as a lever. You can now place the bones in their proper situation. Two splints of shingle or stout pasteboard, long enough to reach from below the shoulder to near the elbow, must then be well covered with tow or cotton, and laid along each side of the arm, and kept in that position by a bandage. The fore-arm is to be supported in a sling. Two smaller splints may for better security be laid between the first ones, that is one on top, and

* By the fore-arm is meant that part of it which reaches from the elbow to the wrist. The arm extends from the shoulder to the elbow.

the other underneath the arm, to be secured by the bandage in the same way as the others.

OF THE BONES OF THE FORE-ARM.

These are to be reduced precisely in the same way, excepting the mode of keeping the upper portion of it steady, which is done by grasping the arm above the elbow. When the splints and bandage are applied, support it in a sling.

OF THE WRIST, &c.

This accident is of rare occurrence. When it does happen the injury is generally so great as to require amputation. If you think the hand can be saved, lay it on a splint well covered with tow; this extends beyond the fingers; place another splint opposite to it, lined with the same soft material, and secure them by a bandage. The hand is to be carried in a sling.

The bones of the hand are sometimes broken. When this is the case, fill the palm with soft compresses or tow, and then lay a splint on it long enough to extend from the elbow to beyond the ends of the fingers, to be secured by a bandage, as usual.

When a finger is broken, extend the end of it until it becomes straight, place the fractured portion in its place, and then apply two small pasteboard splints, one below and the other above, to be secured by a narrow bandage. The top splint should extend from the end of the finger over the back of the hand. It may sometimes be proper to have two additional splints for the sides of the finger.

OF THE RIBS.

When after a fall or blow, the patient complains of a pricking pain in his side, we may suspect a rib is broken. It is ascertained by placing the tips of two or three fingers on the spot where the pain is, and desiring the patient to cough, when the *grating* sensation will be felt. All that is necessary, is to

pass a broad bandage round the chest, so tight as to prevent the motion of the ribs in breathing and to observe a low diet.

OF THE THIGH.

A fracture of this bone is known by the deformity of the thigh, the shortness of the whole limb when compared with its fellow, and by a great swelling at the fractured part. All that can be done in the event of this serious accident, is to send for the nearest physician. The apparatus to reduce it is so complex that none but a surgeon can apply it.

OF THE KNEE-CAP.

This accident is easily ascertained on inspection. It may be broken in any direction, but is most generally so across or transversely. It is reduced by bringing the fragments together and keeping them in that position by a long bandage passed carefully round the leg, from the ankle to the knee, then pressing the upper fragment down so as to meet its fellow, (the leg being extended) and placing a thick compress of linen above it, over which the bandage is to be continued.

The extended limb is now to be laid on a broad splint, extending from the buttock to the heel, thickly covered with tow to fill up the inequalities of the leg. For additional security, two strips of muslin may be nailed to the middle of the splint, one on each side, and passed about the joint, the one below, the other above, so as to form a figure of eight. In twenty or thirty days, the limb should be moved a little to prevent stiffness.

If the fracture is through its length, bring the parts together, place a compress on each side, and keep them together with a bandage, leaving the limb extended and at rest. Any inflammation in this, or other fracture, is to be combated by cold applications, &c. &c.

OF THE LEG.

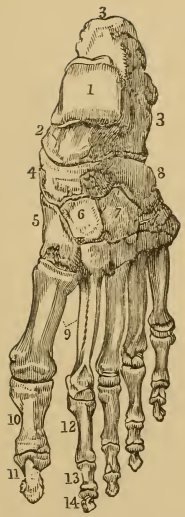
From the thinness of the parts covering the principal bone of the leg, it is easy to ascertain if it is broken obliquely. If, however, the fracture be directly *across*, no displacement will occur, but the pain, swelling, and the *grating sensation*, will sufficiently decide the nature of the accident.

If the fracture is oblique, let two assistants extend the limb, while the broken parts are placed by the hand in their natural position. Two splints that reach from a little above the knee, to nine or ten inches below the foot, having near the upper end of each, four holes, and a vertical mortice near the lower end into which is fitted a cross piece, are now to be applied as follows. Lay two pieces of tape, about a foot long, on each side of the leg, *just below the knee joint*, and secure them there by several turns of a bandage; pass a silk handkerchief round the ankle, cross it on the instep, and tie it under the sole of the foot. The two splints are now placed one on each side of the leg, the four ends of the pieces of tape passed through the four holes and firmly tied, and the cross piece placed in the mortice. By tying the ends of the handkerchief to this cross piece the business is finished.

If the fracture is *across*, and no displacement exists, apply two splints of stout pasteboard, reaching from the heel to the knee, and well covered with tow, one on each side of the leg, securing them by a bandage passing round the limb, and outside the splints.

OF THE BONES OF THE FOOT.

The bone of the heel is sometimes, though rarely, broken. It is known by a crack at the moment of the accident, a difficulty in standing, by the swelling, and by the grating noise on moving the heel. To reduce it, take a long bandage, lay the end of it on the top



THE DORSAL SURFACE OF THE LEFT FOOT.

1, the astragalus, its upper articular surface. 2, its anterior extremity, which articulates with (4) the scaphoid bone. 3, the oscalcis, or heel-bone. 4, the scaphoid bone. 5, the internal cuneiform bone. 6, the middle cuneiform bone. 7, the external cuneiform bone. 8, the cuboid bone. 9, the metatarsal bones of the first and second toes. 10, 11, the first and second phalanges of the great toe. 12, 13, 14, the first, second, and third phalanges of the second toe.

of the foot, carry it over the toes under the sole, and then by several turns secure it in that position.

The foot being extended as much as possible, carry the bandage along the back of the leg above the knee, where it is to be secured by several turns, and then brought down on the front of the leg, to which it is secured by circular turns. In this way the broken pieces will be kept in contact, and in the course of a month or six weeks will be united.

Fractures of the foot, toes, &c. are to be treated like those of the hand and fingers.

OF DISLOCATIONS.

The signs by which a dislocation may be known, have been already mentioned. It is well to recollect that the sooner the attempt is made to reduce it, the easier it will be done. The strength of one man, properly applied at the moment of the accident, will often succeed in restoring the head of a bone to its place, which in a few days would have required the combined efforts of men and pulleys. If after several trials with the best apparatus that can be mustered, you find you cannot succeed, make the patient drink *strong* hot toddy, of brandy or other spirits, until he is *very* drunk. In this way, owing to the relaxed state of the muscles, a very slight force will often be sufficient, where a very great one has been previously used without effect.

If any objections are made to this proceeding, or if the patient will not consent to it, having your apparatus (which is presently to be mentioned) all ready, let him inhale chloroform or ether until completely under its influence; the instant this happens apply your extending and counter-extending forces. Another important rule is, to vary the direction of the extending force. A slight pull in one way, will

often effect what has been in vain attempted by great force in another.

OF THE LOWER JAW.

This accident, which is occasioned by blows, or yawning, is known by an inability to shut the mouth, and the projection of the chin. To reduce it, seat the patient in a chair with his head supported by the breast of an assistant, who stands behind him. Your thumbs being covered with leather, are then to be pushed between the jaws, as far back as possible, while with the fingers, outside, you grasp the bone, which is to be pressed *downwards* at the same time that the chin is *raised*. If this is properly done, the bone will be found moving, when the chin is to be pushed *backwards*, and the thumbs slipped between the jaws and the cheeks. If this is not done, they will be bitten by the sudden snap of the teeth as they come together. The jaws should be kept closed by a bandage for a few days, and the patient live upon soup.

OF THE COLLAR BONE

This bone is rarely dislocated. Should it occur apply the bandages, &c. directed for a fracture of the same part.

OF THE SHOULDER.

Dislocation of the shoulder is the most common of all accidents of the kind. It is very easily known by the deformity of the joint, and the head of the bone being found in some unnatural position. To reduce it, seat the patient in a chair, place one hand on the prominent part of the shoulder blade, just above the spot where the head of the bone should be, while with the other you grasp the arm above the elbow and pull it outwards.

Should this not succeed, lay the patient on the ground, place your heel in his arm-pit, and steadily

and forcibly extend the arm, by grasping it at the wrist. The same thing may be tried in various positions, as placing yourself on the ground with him, laying him on a low bed, while you are standing near the foot of it, &c.

If this fails, pass a strong band over the shoulder, carry it across the breast, give the ends to assistants, or fasten them to a staple in the wall; the middle of a strong band or folded towel is now to be laid on the arm above the elbow, and secured there by numerous turns of a bandage. The two ends of the towel being then given to assistants, or connected with a pulley, a steady, continued and forcible extension is to be made, while with your hands you endeavour to *push* the head of the bone into its place.

OF THE ELBOW.

If the patient has fallen on his hands, or holds his arm bent at the elbow, and every endeavour to straighten it gives him pain, it is dislocated *backwards*. Seat him in a chair, let one person grasp the arm near the shoulder, and another the wrist, and forcibly extend it, while you interlock the fingers of both hands just above the elbow, and pull it backwards, remembering that under those circumstances, whatever degree of force is required, should be applied in this direction.

The elbow is sometimes dislocated *sideways* or laterally. To reduce it, make extension by pulling at the wrist, while some one secures the arm above, then push the bone into its place, either inwards or outwards, as may be required. After the reduction of a dislocated elbow, keep the joint at perfect rest for five or six days, and then move it gently. If inflammation comes on, apply ice bladder, &c. &c.

OF THE WRIST, FINGERS, &c.

Dislocations of the wrist, fingers and thumb, are readily perceived on examination; they are all to be

reduced by forcibly extending the lower extremity of the part, and pushing the bones into their place. If necessary, small bands may be secured to the fingers by a narrow bandage, to facilitate the extension. These accidents should be attended to without delay for if neglected for a little time, they become ir remediable.

OF THE THIGH.

Notwithstanding the hip joint is the strongest one in the body, it is sometimes dislocated. When this accident occurs, which may be readily ascertained by comparing the limb with its fellow, &c. send for a surgeon as soon as possible.

OF THE KNEE-CAP.

When this little bone is dislocated, it is evident on the slightest glance. To reduce it, lay the patient on his back, straighten the leg, lift it up to a right angle with his body, and in that position push the bone back to its place. The knee should be kept at rest for a few days.

OF THE LEG

Procure a surgeon as quickly as possible.

OF THE FOOT.

The foot is seldom dislocated. Should it happen, however, let one person secure the leg, and another draw the foot, while you push the bone in the contrary way to that in which it was forced out. The part is then to be covered with compresses dipped in lead water, and a splint applied on each side of the leg that reaches below the foot. Accidents of this nature are always dangerous, all that can be done to remedy them consists in the speedy reduction of the bone, keeping the parts at rest, and subduing inflammation by cold, low diet, &c. &c.

OF COMPOUND ACCIDENTS.

Having spoken of the treatment to be pursued for a bruise, wound, fracture and dislocation, as happening singly, it remains to state what is to be done when they are united.

We will suppose that a man has been violently thrown from a carriage. On examination, a wound is found in his thigh bleeding profusely, his ankle is out of joint with a wound communicating with its cavity, and the leg broken.

In the first place stop the bleeding from the wound in the thigh; reduce the dislocation next; draw the edges of the wounds together with sticking plaster: and procure a surgeon as quickly as possible.

If, instead of a wound, fracture and dislocation, there is a concussion or compression of the brain, a dislocation and fracture, attend to the concussion first, the dislocation next, and the fracture the last.

OF AMPUTATION.

This operation should never be attempted except by a surgeon.

If a limb be nearly severed from the body by accident, and hang merely by a slip of skin or muscle, it may be divided with a sharp knife.

OF SUSPENDED ANIMATION

FROM DROWNING.

The common methods of rolling the body of a drowned person on a barrel, or holding it up by the

heels, &c. are full of danger, and should never be permitted. If a *spark* of life should happen to remain, this violence would extinguish it for ever.* As soon, therefore, as the body is found, convey it as gently as possible to the nearest house, strip it of the wet clothes, dry it well, and place it on a bed between warm blankets, on the right side, with the head elevated by pillows. *Every part* is now to be well rubbed with flannels dipped in *warm* brandy, or spirits of any kind, while a warming pan, hot bricks, or bottles or bladders filled with warm water, are applied to the stomach, back, and soles of the feet. During these operations a certain number of the assistants (no more persons are to be allowed in the room than are absolutely necessary) should try to inflate the lungs, by blowing through the nozzle of a common bellows, or a pipe of any kind, placed in one nostril, while the other with the mouth is kept closed. An assistant standing at the head of the body should take hold of the arms at the wrists, and raise the arms up to the head, and then throw them forward on the chest, thus dilating and contracting the thorax, making artificial respiration.

All these operations, particularly rubbing the body and trying to inflate the lungs, should be continued for six or eight hours, and when the patient has come to himself, small quantities of warm wine, wine-whey, brandy and water, &c. may be given to him, from time to time

Should the accident occur in winter, and the body feel cold, as if frozen; previously to applying warmth, rub it well with snow, ice, or very cold water Above all things remember that perseverance for many hours in the remedies pointed out, may give

* The seal of the Humane Society beautifully expresses this fact. It represents a little boy blowing a coal, the motto (if I mistake not) "a spark may remain"

you the unspeakable pleasure of *restoring* a fellow creature to life.

FROM COLD.

Take the body into a room, the doors and windows of which are open, and where there is no fire, and rub it with snow,* or cold water. After a while, frictions with flannels and hot spirits are to be used, as in the preceding case, and warmth *very gradually* applied. The lungs are to be inflated as directed in cases of drowning, and when the patient is able to swallow, warm wine, &c. may be given in small quantities.

If a limb is frost-bitten, the cold applications should be continued longer, and warmth be more gradually applied than when the whole body is frozen. Care should be taken to handle the parts carefully, so as not to break off the ear, tip of the nose, &c.

FROM HANGING.

The remedies for this accident are the same as in drowning, with the addition of taking away a small quantity of blood, by cupping glasses, from the neck, or by opening the jugular vein.

FROM FOUL AIR.

Throw open the doors and windows, or take the patient into the open air, and seat him, undressed, well wrapped in a blanket, in a chair, leaning a little to the right side, place his feet or whole body in a bath, and sprinkle his stomach with cold vinegar or water, and rub it immediately with flannels dipped in oil. Clysters of vinegar and water are to be in-

* If this can be procured in plenty, the patient, with the exception of his face, which should be left out, may be completely covered with it to the thickness of two feet.

jected, and when animation returns, continue the frictions, and give warm mint tea, &c.

OF SWALLOWING POISONS.

The first thing to be done when a person is discovered to have swallowed poison is, to ascertain what it is he has taken: the next, to be speedy in resorting to its appropriate remedies. If any one of these cannot be had, try some other without loss of time.

ACIDS.

Oil of Vitriol,—Aqua Fortis,—Spirits of Sea Salt,—Oxalic Acid.

Symptoms. A burning heat in the mouth, throat and stomach,—stinking breath,—an inclination to vomit, or vomiting of various matters mixed with blood,—hiccups,—costiveness or stools more or less bloody,—pain in the belly, so great that the weight of a sheet cannot be borne,—burning thirst,—difficulty of breathing,—suppression of urine, &c.

Remedies.—Mix an ounce of calcined magnesia with a pint of water, and give a glassful every two minutes. If it is not at hand, use flaxseed tea, rice water, or water alone in large quantities, until the former can be procured. If it cannot be obtained, dissolve an ounce of soap in a pint of water, and take a glassful every two minutes; chalk or whiting may also be taken by the mouth, and clysters of milk be frequently injected. If the patient will not vomit, put him in the warm bath, bleed him freely, and apply leeches and blisters over the parts pained. If the cramps and convulsions continue, give him a cup of common tea, with an ounce of sugar, forty drops of Hoffman's anodyne and fifteen or twenty of laudanum every quarter of an hour. No nourishment but

weetened rice water is to be taken for several days. In these cases never give tartar emetic, ipecacuanha, or tickle the throat with a feather; they only increase the evil.

ALKALIES.

Caustic Potash,—Caustic Soda,—Volatile Alkali.

SYMPTOMS. These substances occasion the same effects as acids, producing dreadful convulsions.

REMEDIES. Take two table spoonsful of vinegar or lime juice in a glass of water at once, follow it up by drinking large quantities of sugar and water. Pursue the same treatment as in poisons from acids.

MERCURY.

Corrosive Sublimate,—Red Precipitate,—Vermilion.

SYMPTOMS. Constriction and great pain in the throat, stomach and bowels,—vomiting of various matters mixed with blood,—unquenchable thirst,—difficulty of urine,—convulsions.

REMEDIES. Mix the whites of a dozen or fifteen eggs with two pints of cold water, and give a glassful every two minutes, with as much milk as can be swallowed, and large doses of ipecacuanha. If after the egg mixture is all taken, the vomiting does not stop, repeat the dose, with the addition of more water. Leeches, the warm bath, blisters, &c. are to be used to reduce the pain and inflammation, as before directed.

ARSENIC.

SYMPTOMS. These are the same as produced by the mercurial poisons.

REMEDIES. Give large quantities of cold sugar and water, until a plentiful vomiting is induced, to assist which, ipecacuanha* may be taken in considerable

* To render it more active, ten grains of sulphate of zinc may be added to it.

doses at the same time;* barley, rice water, flaxseed tea, milk, &c. should afterwards be employed. Oil is never to be used in this case until the symptoms have considerably abated, or the poison has been ejected.

COPPER.

The symptoms occasioned by swallowing verdigris, are nearly the same as those of the mercurial poisons. The great remedy is large quantities of sweetened water. In addition to this, use all the means recommended for corrosive sublimate, &c.

ANTIMONY.

Antimonial Wine,—Tartar Emetic,—Butter of Antimony, &c.

SYMPTOMS. Excessive vomiting,—pain and cramp in the stomach,—convulsions, &c.

REMEDIES. Encourage the vomiting by sugar and water, and if after a while it does not stop, give a grain of opium in a glass of the sweetened water, every fifteen minutes. To relieve the pain, apply leeches to the stomach, throat or parts affected.

SALTS OF TIN.

Give as much milk as can be got down, and if it is not at hand, use large quantities of cold water to induce vomiting. If the symptoms do not abate, pursue the plan directed for acids.

SALTS OF BISMUTH, GOLD AND ZINC.

Pursue the plan recommended for arsenic.

LUNAR CAUSTIC

Dissolve two table spoonsful of common table salt, in two pints of water; a few glasses of this will in-

* Equal parts of lime water and sugared water may also be used.

duce vomiting If not relieved, drink flaxseed tea, apply leeches, &c. as for acids.

SALT-PETRE.

Pursue the plan recommended for arsenic omitting the lime water.

SAL AMMONIAC.

SYMPTOMS. Vomiting,—pain in the belly,—*a stiffness of the whole body*,—convulsions.

REMEDIES. Introduce your finger or a feather into the throat to induce vomiting, and give plenty of sweetened water. To relieve the convulsions give the tea, laudanum, &c. as for acids, or the laudanum alone, and to ease the pain in the belly, apply leeches, &c.

LIVER OF SULPHUR.

SYMPTOMS. They resemble those caused by saltpetre.

REMEDIES. Two table spoonsful of vinegar in a glass of water, are to be frequently taken until vomiting is brought on, after which, have recourse to leeches, blisters, &c.

PHOSPHORUS.

The symptoms and remedies are the same as by poison from acids.

SPANISH FLIES.

SYMPTOMS. Great pain in the stomach, with obstinate and painful erections, accompanied by a difficulty or suppression of urine, or if any is passed, it is bloody,—a horror of swallowing liquids,—frightful convulsions.

REMEDIES. Make the patient swallow as much sweet oil as he can possibly get down. Milk and sugared water are also to be freely used. In addition

to the plan recommended for acids, solutions of gum arabic, or flaxseed tea, are to be injected into the bladder. If no vomiting is induced, put him in the warm bath, continue the sweetened water, and rub his thighs and legs with two ounces of warm oil, in which a quarter of an ounce of camphor has been dissolved. Eight or ten grains of camphor may be mixed with the yolk of an egg and taken internally. If there is acute pain in the bladder, apply leeches over it.

POWDERED GLASS.

Stuff the patient with thick rice pudding, bread, potatoes or any other vegetable, then give him five grains of tartar emetic to vomit him, after which, use milk freely, clysters and fomentations to the belly with the warm bath; leeches, &c. are not to be neglected.

LEAD.

Sugar of Lead,—Extract of Saturn,—White Lead —Litharge,—Minium.

Symptoms. A sweet astringent taste in the mouth, —constriction of the throat,—pain in the stomach,—bloody vomiting, &c.

Remedies. Dissolve a handful of Epsom or Glauber salts in a pint of water and give it at once; when it has vomited him, use sweetened water. If the symptoms continue, act as directed for acids.

OPIUM, OR LAUDANUM.

Symptoms. Stupor,—an insurmountable inclination to sleep,—delirium,—convulsions, &c.

Remedies. Endeavour to excite vomiting by six grains of tartar emetic, or four grains of blue, or thirty of white vitriol. Thrust a feather down the throat for the same purpose. Never give vinegar or other acids, until the poison is altogether or nearly evacuated. After this has taken place, a wine glassful of

lemon juice and water may be taken every five minutes, along with a cup of *very strong* coffee. The coffee, &c. are to be continued until the drowsiness is gone off, which, if it continues, and resembles that of apoplexy, must be relieved by bleeding. The patient is to be forcibly kept in constant motion.

MUSHROOMS.

REMEDIES. Give the patient immediately, three grains of tartar emetic, twenty-five or thirty of ipecacuanha, and an ounce of salts, dissolved in a glass of water, one third to be taken every fifteen minutes until he vomits freely. Then purge with castor oil. If there is great pain in the belly, apply leeches, blisters, &c.

TOBACCO, HEMLOCK, NIGHT-SHADE, SPURRED RYE.

REMEDIES. An emetic as directed for opium. If the poison has been swallowed some time, purge with castor oil. After vomiting and purging, if the patient seems drowsy, bleed him, and give vinegar and water.

POISONOUS FISH.

REMEDIES. An emetic. If it has been eaten some time, give castor oil by the mouth and clyster. After these have operated, twenty drops of ether may be taken on a lump of sugar; vinegar and water as before mentioned.

FOREIGN BODIES IN THE THROAT.

Persons are frequently in danger of suffocation from fish bones, pins, &c. which stick in the throat. The moment an accident of this kind occurs, desire the patient to be perfectly still, open his mouth and look into it. If you can see the obstruction, endeavour to seize it with your finger and thumb, or a long

slender pair of pincers. If it cannot be got up, or is not of a nature to do any injury in the stomach, push it down with the handle of a spoon or a flexible round piece of whale-bone, the end of which is neatly covered with a roll of linen, or any thing that may be at hand.* If you can neither get it up nor down, place six grains of tartar emetic in the patient's mouth. As it dissolves, it will make him excessively sick, and in consequence of the relaxation, the bone, or whatever it may be, will descend into the stomach or be ejected from the mouth.

If a pin, button, or other metallic or pointed body has been swallowed (or pushed into the stomach) make the patient eat plentifully of thick rice pudding, and endeavour to prevent him from going to stool for at least twelve hours.

OF BURNS AND SCALDS.

There are three kinds of remedies employed in accidents of this nature. Cooling applications, such as pounded ice,—snow,—vinegar,—cold water,—lead-water, &c. Stimulants, as warm spirits of turpentine,—brandy, or any ardent spirits, and carded or raw cotton.

Any one of these articles that happens to be nearest at hand, may be tried, although the preference is due to the turpentine or spirits, which being made as hot as the patient can bear it, is to be applied to all the burned surface (so as not to touch the adjoining sound skin) until some common basilicon ointment can be thinned with spirits of turpentine, to the consistence of cream, in which state it is to be spread on a linen rag and laid over the part, taking care, as before, not to let it touch the sound skin.

* The small end of a common riding whip answers very well.

If, however, (the rule is general) this plan causes great pain and inflammation, it must be abandoned, and one of the others be resorted to, as the pounded ice, which can be readily applied in a bladder. Equal parts of lime water and linseed oil well mixed, forms one of the most soothing of all applications. Should much fever prevail, it is to be reduced by bleeding, purging, &c. but if on the contrary, the system seems to sink, wine, bark, &c. must be employed

OF MORTIFICATION.

From what has already been stated, it is evident that in treating wounds, &c. as well as diseases, one great and important indication is to repress excessive inflammation, which, if allowed to proceed to a certain point, sometimes produces mortification or the death of the parts.

Whenever, therefore, from the violence of the fever, heat, pain, redness and swelling, you are fearful of its ending in this way, apply ice bags or cloths dipped in cold water over the part. If, however, the fever and pain suddenly cease, if the part which before was red, swollen and hard, becomes purple and soft, abandon *at once* all reducing measures, apply warmth over the whole of the parts, and give wine, porter, bark, &c., freely and without delay. If the warmth does not put a stop to the disease, and the parts become dead and offensive, cover them with a charcoal or fermenting poultice until nature separates the dead parts from the living, during which process a generous diet, bark, &c., must be allowed.

There is a particular kind of mortification which comes of itself, or without any apparent cause. It attacks the small toes of old people, and commences in a small bluish or black spot, which spreads to different parts of the foot. To remedy it, place a blister over the spot, and give two grains of opium night and

morning; taking care to keep the bowels open by castor oil, and to diminish the quantity of the opium if it occasions any unpleasant effects.

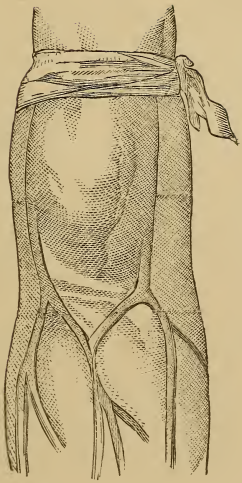
In extensive mortifications of the fore-arm, it is necessary to amputate. This, however, should never be done, until by the repeated application of blisters to the sound parts adjoining the mortified ones, they are disposed to separate, which may be easily known by inspection.

DIRECTIONS FOR BLEEDING.

Tie up the arm, placing the bandage at least two inches above the projections of the elbow joint, and then feel for the pulse at the wrist. If it is stopped, the bandage is too tight, and must be relaxed. Select the most prominent vein, and feel with the tip of your finger if an artery lies near it. If you feel one pulsating so close to the vein that you are fearful of wounding it, choose another. Having *set* your lancet (of course a *spring* lancet), bend the arm to the precise position it is to keep while the blood flows. Now place the cutting edge of the lancet on the vein, while you depress the handle or frame just as much as you wish the cut to be deep; by touching the spring on the side with your thumb the business is done. To stop the bleeding, relax the bandage, press the two edges of the wound together, place a little compress of linen on it, and bind up the whole with a bandage passing round the joint in a figure of eight.

DIRECTIONS FOR PASSING CATHETERS.

Take the penis of the patient near its head between the finger and thumb of your left hand (standing beside him), while with your right you introduce



VEINS OF THE ARM.

the point of the instrument into the urinary passage, its convex side towards his knees; while you push the catheter down the urethra, endeavour at the same time to draw up the penis on it. When you first introduce it, the handle will of course be near the belly of the patient, and as it descends will be thrown farther from it, until it enters the bladder which will be known by the flow of the urine. If you cannot succeed while the patient is on his back, make him stand up, or place him with his shoulders and back on the ground, while his thighs and legs are held up by assistants. If still foiled, place him again on his back, and when you have got the catheter as far down as it will go, introduce the forefinger, well oiled, into the fundament, and endeavour to push its point upwards, while you still press it forward with the other hand. Force is never, on any account, to be used. Vary your position as often as you please, let the patient try it himself, but always remember it is by *humouring* the instrument, and not by violence, that you can succeed.

DIRECTIONS FOR PASSING BOUGIES.

Take the penis between your finger and thumb, and pass the point of the instrument (which should be well oiled) down the urethra as directed for the catheter; when it has entered three or four inches, depress the penis a little, and by humouring the bougie with one hand and the penis with the other, endeavour to pass it as far as may be wished. The patient himself will frequently succeed when every one else fails.

The passing of catheters and bougies should never be undertaken excepting by someone skilled in the handling of them.

The flexible soft rubber catheters are used almost exclusively now.

CHAPTER IV.

Prescriptions referred to in the preceding pages.

No. 1. *Saline Mixture.* R.* Salts of Tartar, 1 drachm,—Water, 4 ounces,—Essence of Peppermint, 3 drops. When the salt is dissolved, add very gradually lemon juice or vinegar, 1 ounce, or till the effervescence ceases. To be taken every hour.

No. 2. R. Sulphate of Quinine, 13 grains,—Gum Arabic powdered, 1 drachm,—Loaf Sugar, ½ an ounce,—Water, 6 ounces,—Essence of Peppermint, 5 drops. A table spoonful every hour, shaking the bottle well before it is poured out.

No. 3. R. Calomel, 6 grains,—Antimonial Powders, 3 grains. To be taken every three hours.

No. 4. *Effervescing Mixture.* R. Salt of Tartar, 20 grains,—Water, 2 ounces,—Essence of Peppermint, 2 drops. When the salt is dissolved, add a table spoonful of lemon juice, or good vinegar, and swallow it immediately.

No. 5. R Chalk Mixture, 4 ounces,—Tincture of Kino, 1 drachm,—Lavender Compound, 1 drachm,—Laudanum, 30 drops. A table spoonful every two or three hours, as may be required.

No. 6. R. Cayenne Pepper, 6 ounces,—Common Salt, 4 drachms,—Boiling Water, 1½ pints,—Boiling Vinegar, 1½ pints. Let it remain in a close vessel for an hour, then strain it through a fine linen cloth.

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* R. stands for *Recipe* or "Take." The weights used in these Prescriptions are troy or apothecary's —not avoirdupois weight.

Take a table spoonful every hour or two, according to circumstances.

No. 7. R. Musk, 1 drachm,—Gum Arabic powdered, 1 drachm,—Loaf Sugar, 1 drachm,—Water, 6 ounces. Rub up the musk with the sugar, then add the gum and pour on the water very gradually, so as to incorporate the whole. Take a table spoonful every two hours.

No. 8. R. Camphor, 30 grains,—Almonds blanched, 2 drachms,—Loaf Sugar, 1½ drachms,—Peppermint Water, 6 ounces. Moisten the camphor with a few drops of spirits of wine, and reduce it to powder. The almonds and sugar having been beat to a paste, add the camphor, and pour on the water gradually, rubbing the whole well together. Take a table spoonful every two or three hours.

No 9. R. Sugar of Lead, 5 grains,—White Vitriol, 2 grains,—Laudanum, 2 drachms,—Rose Water, 6 ounces.——Or, Wine of Opium, ½ an ounce,—Water, 2 ounces.——Or, Alum, ½ a drachm,—Rose Water, 6 ounces. To bathe the eye frequently.

No. 10. R. Barley Water, ½ a pint,—Vinegar, 1½ ounces.——Or, Alum, 1 drachm,—Rice Water, 1½ pints,—Honey, 1 ounce.——Or, Vinegar, 2 ounces,—Water, 1 pint. To gargle the throat.

No. 11. R. Barley or Rice Water, ½ a pint,—Tincture of Myrrh, ½ an ounce,—Muriatic Acid, ½ a drachm.——Or, Sharp Vinegar, 1 ounce. Gargle the throat frequently.

No. 12. *Wine or Vinegar whey.* R. Place a sauce pan containing a pint of new milk, on the fire, and while it is boiling add one gill of white wine or half the quantity of good vinegar. As soon as the milk is turned, take it off, strain the whey through a cloth and sweeten it to your taste.

No. 13. R. Paregoric, ½ an ounce,—Syrup of Squills, 1 ounce,—Antimonial Wine, 2 drachms,—Water, 6 ounces. Take two tea spoonsful every fifteen minutes, until the cough is relieved.

No. 14. R. The White of 1 Egg,—Castor Oil, 5

ounces,—Lavender Compound, 2 drachms,—Sugar, ½ an ounce,—Water, 4 ounces. Incorporate the oil and the white of the egg, by shaking in a bottle, then add the water containing the sugar and lavender. Half may be taken at once, and the other half in a few hours, or a table spoonful hourly until it operates.

No. 15. R. Chalk Mixture, 4 ounces,—Tincture of Kino, 1 drachm,—Cinnamon Water, 2 ounces,—Laudanum, ½ a drachm. A table spoonful every two hours, or oftener if necessary.

No. 16. R. Tincture of Catechu, 2 ounces. Take two tea spoonsful in a little port wine, every hour, or oftener if required.

No. 17. R. Extract of Logwood, 20 grains,—Cinnamon Water, 2 ounces,—Tincture of Kino, 1 drachm,—Sugar, 2 drachms. To be taken at once.

No. 18. R. Prepared Chalk, 2 drachms,—Loaf Sugar, 1 drachm. Rub them well together, and add gradually of mucilage of Gum Arabic, 1 ounce,—Water, 6 ounces,—Lavender Compound, 2 drachms,—Laudanum, 30 drops. A table spoonful every hour or oftener if necessary.

No. 19. R. Calomel, 10 grains,—Jalap, 12 grains,—Opium, 1½ grains,—Tartar Emetic, ½ a grain,—Oil of Aniseed, 1 drop. Make the whole into a mass with conserve of roses, and divide it into five or six pills, all of which are to be taken at once.

No. 20. R. Socotrine Aloes, 1 ounce,—Liquorice, 2 ounces,—Coriander Seeds, ½ an ounce. Digest the aloes and liquorice in 1 pint of brandy for a week, shaking the bottle frequently, and add half a pint of a *very strong* decoction of Carolina Pink Root. Dose, two table spoonsful every morning, fasting.

No. 21. R. Powder of the root of the Male Fern, 1 drachm. This is to be taken in molasses early in the morning, and for two days in succession, to be followed with some very active purgative.

No. 22. R. Powder of Tin, 1 drachm,—Molasses as much as will envelope it. Repeat the dose morning and evening for three days, and then take some active

purgative.——Or, Bark of the fresh root of Pride of China, 5 ounces,—Water, 2 pints. Boil it in a close vessel to one pint. Dose, a table spoonful every two hours till it operates.——Or, Bark of the Cabbage-tree, 1 ounce,—Water, 2 pints. Boil to one pint and strain. Dose, a wine glassful or about two ounces.

No. 23. R. Mucilage of Gum Arabic, 1½ ounces,—Olive Oil, 2 drachms. Mix them well, and add Ether 1 drachm,—Laudanum, 20 drops. Take at once.

No. 24. R. Peruvian Bark, 20 grains,—Uva Ursi 20 grains.—Opium, ½ a grain. Make a powder, to be taken three times a day with lime water.

No. 25. R. Compound Tincture of Senna, 1 ounce —Compound Tincture of Jalap, 2 drachms.

No. 26. R. Calomel, 10 grains,—Jalap, 15 grains, —Oil of Aniseed, 2 drops. To be taken in molasses.

No. 27. R. Compound Tincture of Senna, 1 ounce, —Wine of Aloes, 2 ounces,—Simple Syrup, 1 ounce, —Water, 4 ounces,—Oil of Mint, 2 drops. A table spoonful from time to time, as may be necessary.

No. 28. R. Muriate of Ammonia, ½ an ounce,—Vinegar, 2 ounces,—Proof Spirits, 3 ounces,— Water, 3 ounces. Mix them for a wash.

No. 29. *Scudamore's Lotion for Gout.* R. Alcohol, 3 ounces,—Camphor Mixture, 9 ounces. Render the whole *milk warm*, by adding boiling water.

No. 30. R. Water of Ammonia, 2 drachms,—Olive Oil, 1½ ounces,—Laudanum, ½ an ounce. Shake well.

No. 31. R. Opium in fine powder, 2½ drachms,—Soap Liniment, 2 ounces,—Spirits of Camphor, 2 ounces. Pour the liniment gradually on the opium rub well together, and add the spirits of camphor.

No. 32. R. Sulphate of Quinine, 8 grains,—Syrup of Rhubarb, 2½ ounces,—Orange flower Water, 2½ ounces,—Sulphuric Ether, 10 drops.

No. 33. R. Muriated Tincture of Iron, 2 ounces. Take twenty drops three times a day, in a wine glass of the cold infusion of bark.——Or, Extract of Bark 1 drachm.—Extract of Gentian, 1 drachm,—Green Vitriol, ½ a drachm.—Myrrh, 1 drachm,—Oil of Ani-

seed, 10 drops,—Simple Syrup sufficient to make the whole into a mass, to be divided into sixty pills, of which take three twice a day.——Or, Rust of Iron, 1 drachm,—Conserve of Roses, as much as will make a mass, to be divided into sixty pills, of which take two, three times a day.

No. 34. R. Calomel, ½ a drachm,—Tartar Emetic, 15 grains,—Opium, ½ a drachm. Add syrup sufficient to form a smooth mass, and divide it into sixty pills.

No. 35 R. Powdered Borax and Chlorate of Potash, of each 1 drachm,—Thymol, 5 grains,—Menthol, 1 grain,—Glycerine, 1½ ounces,—Alcohol, 2½ ounces,—two teaspoonfuls to six teaspoonfuls of warm water; to be used as gargle for throat and wash for mouth every two to four hours.

Emollient Clyster. R. Thin Starch, 1 pint,—Molasses, 1 wine glassful.——Or, Molasses, and Sweet Oil, each 1 wine glassful,—Warm Barley Water, 1 pint.——Or, Flaxseed Tea, 1 pint,—Milk, ½ a pint.

Anodyne Clyster. R. This is formed by adding 40 50, 60, or more drops of laudanum (as occasion may require) to the Emollient Clyster.

Purgative Clyster. R. Table Salt and Brown Sugar, each a table spoonful, add half a gill of Molasses, and rub them well together. While you are stirring them, gradually pour in two ounces of Castor Oil, and a pint of warm Water.

Tobacco Clyster. R. Infuse 1 drachm of Tobacco in a pint of boiling water for ten minutes. The one half to be injected first, and if this will not produce the wished for effect in half an hour, throw up the remainder.

Hartshorne's decoction of Spanish Flies in Spirits of Turpentine. R. Spanish Flies bruised, 1 ounce,—Spirits of Turpentine, ½ a pint. Boil for three hours and strain.

PART SECOND

EPIDEMIC CHOLERA:

CAUSES, PREVENTION, SYMPTOMS AND TREATMENT OF EPIDEMIC CHOLERA.

DYSPEPSIA, OR INDIGESTION:

CAUSES, PREVENTION, SYMPTOMS AND TREATMENT OF DYSPEPSIA, OR INDIGESTION.

SICK-HEADACH:

CAUSES, CURE AND PREVENTION OF SICK-HEADACH

THE TEETH:

STRUCTURE, FORMATION, DISEASES AND TREATMENT OF THE HUMAN TEETH.

ASIATIC, OR EPIDEMIC CHOLERA.

As an epidemic, Cholera first made its appearance in Bengal during the month of August 1817. Since that period it has continued to prevail, with scarcely any intermission, up to the present time, spreading itself over nearly the whole of India and the rest of Asia, over a part of Africa, and over a considerable portion of Europe. In 1832 it broke out in the Canadas, and visited successively nearly all the larger cities of the United States. By this terrible epidemic, provinces have been ravaged, and districts depopulated; entire garrisons have been destroyed, and victorious armies arrested in their triumphant progress. Under every point of view Epidemic Cholera claims the attention of every individual, and of every community. Though attended with the most violent symptoms, extremely rapid in its progress, and in relation to the real cause by which it is produced, shrouded in the most impenetrable mystery; yet there are few diseases an attack of which can be so readily and certainly guarded against—while no one is so completely under the control of medicine during its first stages

CAUSES.

Cholera, like all other epidemics, is evidently dependent upon a morbid change in the condition of the atmosphere. What is the actual nature of this change it is impossible to ascertain. By some it is referred to irregularities in the electrical state of the air; others have presumed that the air becomes loaded with poisonous effluvia emitted from the earth; while others restrict its cause to a change in the sensible properties of the atmosphere, in other words, to unusual coldness, heat, moisture or dryness —or to rapid and sudden transitions in these particulars. It is certain, that in most places where the cholera has appeared, it has been preceded or accompanied by violent storms or earthquakes, or by seasons unusually disturbed.

That the disease is in no degree contagious, that it is not capable of being communicated from the sick to the well, is now established by so many positive facts, that it appears unnecessary to enter here into an examination of this point. Its non-contagiousness is proved by the disease appearing, at the same time, at points far distant from each other; while in situations intermediate between these not a single case will occur. Physicians, nurses, and attendants upon the sick, are not more affected by the disease than other classes of persons, nor even in as great a proportion; and individuals who were in hospitals with other diseases, and were seized with cholera, did not communicate the disease to the other patients in their immediate vicinity.

PREDISPOSING AND EXCITING CAUSES.

1st. A vitiated and damp state of the atmosphere. Cholera has always prevailed most extensively and produced the greatest ravages, in those situations ordinarily the most unhealthy, particularly in the vicinity

of low, wet, and marshy districts—along the low, muddy banks of rivers; in crowded towns and villages, and in the hovels of the poor, where a proper ventilation is neglected, and in which all kinds of filth are allowed to accumulate.

2d. A constitution broken down by misery, vice, intemperance or fatigue. In every place where Cholera has made its appearance, the great majority of those attacked have been individuals of the lowest classes of the community; those living in the depths of vice and misery; the habitually intemperate; those who were constantly exposed to fatigue, and to the inclemencies of the weather; and those who, from extreme poverty, are obliged to subsist on unwholesome food, or such as is deficient in nutriment. But few persons in easy circumstances and of temperate lives have been attacked; and in those few, the occurrence of the disease could very generally be traced either to fatigue, to exposure to wet or damp or to the night air, to fear and anxiety, to improper food, as that which is too stimulating, difficult of digestion or flatulent, to fasting too long, to a constitution broken down by disease or a state of convalescency particularly from stomachic and bowel complaints, to the use of impure water, of cold and iced fluids or of iced creams when the body is in a state of fatigue, or overheated to indulgence in acid drinks, or those which readily become sour in the stomach, as the weaker wines, table beer, cider, &c., to the imprudent use of medicine, especially emetics and purgatives, or to prolonged watchfulness

PREVENTION.

To avoid Cholera, therefore, an individual must live temperately on plain, nutritive food, simply cooked. He must avoid rich, high-seasoned soups and sauces, all made dishes and pastry; of salted provisions he must partake in great moderation,

salted, dried, and smoked fish he must abstain from, as also pork, geese, ducks, crabs, lobsters, and the like. He must avoid all flatulent vegetables, as cabbages, radishes, green corn, dried peas and beans or those difficult of digestion, as mashed potatoes, cucumbers melons, mushrooms, pickles, &c. and likewise all unripe, decayed, or very acid fruit. He must give up entirely the use of ardent spirits, brandied wines, &c. as ordinary drinks: indeed, as a general rule, pure water should be his sole beverage.

Active regular exercise in a free pure air, not carried so far as to induce fatigue; regular and sufficient sleep; the avoidance of crowded assemblies, of the night air, of wet or damp, or extreme heat, or of exposure to cold, without due precaution, are other means essential to be observed, in order to escape an attack of Cholera.

Personal cleanliness, and all the other means calculated to insure the due performance of the functions of the skin, are likewise all important preventives; hence the use of the warm bath daily, or sponging the entire surface with tepid water, followed by brisk frictions, morning and evening, and a flannel or thick cotton garment next the skin, should never be neglected.

The possession of that species of moral courage which is intimately connected with a well informed mind; a reliance upon the goodness and superintending providence of the Supreme Being; and a consciousness of having fulfilled, to the utmost of our abilities, our religious as well as social duties (which, while they prompt us to avoid danger by the use of all practicable and rational means, prevent all unnecessary terror and alarm when the evil is present), have a powerful influence in guarding the system against disease during the prevalence of every epidemic.

The necessity of comfortable, clean and well ventilated dwellings, situated in a dry, elevated and otherwise healthy situation, must be sufficiently

evident to all. When, however, an individual is under the necessity of residing in a low, damp, unhealthy situation, much may still be done to prevent disease, by a proper attention to ventilation, during fine weather; by strict cleanliness; by closing the doors and shutters before night fall; by occupying the upper rooms of the house, and, in very damp weather, by fires in the apartments where the family pass the day, and in the bed-chamber.

SYMPTOMS.

Epidemic Cholera, in regard to its symptoms, may be divided into four stages or periods.

1. The Stage of Diarrhœa.

This stage is usually accompanied with griping pains in the stomach and bowels; by a sense of lassitude; rumbling of wind in the bowels; frequently, pain and giddiness of the head, and dull pains in the knees and loins. The pulse is various; the tongue is coated with a thin white or yellowish mucus, or thickly furred in the centre and red at the edges. The appetite is diminished; and the thirst increased. There are often shooting pains or stitches through the calves of the legs. The foregoing symptoms are most usually attended with nausea, with frequent watery discharges from the bowels, or with a constant inclination to go to stool without any evacuation taking place, or with only a thin mucous discharge sometimes streaked with blood. This stage may last for several days before the symptoms of the ensuing stage are developed; in many cases the symptoms of the latter appear in a few hours. The occurrence of the second and subsequent stages depends greatly upon the constitution and habits of the patient, as well as upon the circumstance of his having, or not, resorted to proper medical aid. In the debilitated and especially the intemperate, the discharges from

the bowels are not unfrequently from the first very copious, of the appearance of whey, and giving rise to a sense of extreme exhaustion, of faintness or even fainting In such cases, in a very few hours, cramps, vomiting and collapse are apt to come on; any imprudence in eating or drinking, improper exposure, &c. will also accelerate the occurrence of the second and subsequent stages of the disease

2. The Stage of Spasm.

This stage is characterized by violent pains of the stomach and bowels occurring at intervals; by pain of the head and back; by almost incessant vomiting and purging of a rice-water fluid; by inordinate thirst and violent spasms, particularly of the muscles of the extremities. The skin still remains warm, but is bathed with perspiration, and has a peculiar doughy feel; the tongue presents nearly the same appearance as in the first stage; the temperature of the hands and feet is reduced; the pulse is often full and of some firmness; in other cases it is very compressible; or again, it is small and contracted. The mental faculties are unimpaired; the countenance is expressive of great suffering or distress. In this stage the secretion of urine is often diminished in quantity or entirely suspended.

3. The Stage of Commencing Collapse.

In this stage the skin is cold, livid and covered wi a profuse clammy perspiration; the tongue is also col and livid; and the extremities corrugated as if they had been soaked in water; there are frequent cramps of the extremities; the eyes are sunk, the features contracted; there is constant purging, occasionally accompanied with vomiting; there is pain of the stomach, a small, feeble and depressed pulse, and a complete suppression of the urinary secretion. The mental faculties are still unimpaired. Often considerable heat is felt over the stomach. Great thirst and a constant desire for cool air are almost invariably present.

4. The Stage of Confirmed Collapse.

This stage is marked by icy coldness, and a deep blue or purple hue of the skin, tongue and inside of the mouth; the extremities are corrugated; the whole surface is covered with a profuse cold perspiration, which seems to exude in large drops from the pores of the skin. No pulsation can be detected in any of the superficial arteries, and the action of the heart is slow and feeble. Involuntary watery discharges flow from the bowels. The voice is low, husky, and almost extinct. The body exhales a peculiar and very disagreeable odour. There is a short quick respiration, with heaving of the chest. The patient complains of a burning heat in the region of the stomach, and craves without intermission cold water and fresh air; he is extremely restless, or doses with half open eyelids, the pupils of the eyes being rolled very much upwards. Until the very end, the mental faculties continue unimpaired.

TREATMENT.

The treatment of Cholera differs according to the stage of the disease.

1. In the *first stage*, when the patient is young and robust, the skin dry, the pulse frequent and hard, and the griping pains in the bowels constant or severe; a large mustard plaster over the abdomen, and another on the back, will be found of great service. Bathing the feet in warm water, also the application of frictions to the whole of the lower extremities, or mustard poultices to the ankles, will also be decidedly beneficial.

When the diarrhœa is but trifling, a dose of camphor with a few drops of laudanum should be given, and repeated if necessary.

If the discharges from the bowels are very copious, and of a thin, watery and unnatural appearance, a pill of camphor, rhei and opium, repeated at

proper intervals, will often be found very speedily to arrest these discharges, and after a time to procure the evacuation of a very dark, viscid and offensive matter, followed by natural stools.

When the griping and constant inclination to stool are peculiarly troublesome, place lumps of ice continually on the tongue, and an injection of thin starch, olive oil and opium will often remove very speedily the disease. The warm bath is a remedy well adapted to this stage when properly managed.

Attention to diet and clothing is all-important. The patient should be confined exclusively to gum or rice water taken cold and in small quantities at a time; even after the symptoms of the disease have disappeared, the diet should consist for several days of well boiled oat meal gruel, thickened milk, or crackers boiled in milk. A very slight impropriety in diet will often bring back the very worst symptoms of the complaint, and render a cure impossible.

2. When Cholera has reached its *second stage*, there is not a moment to be lost—the least delay on the part of the patient, or timidity in the practitioner will be followed by the most fatal consequences. Give the patient every five minutes a dose of the following anodyne and cordial tincture: Take of aromatic spirits of ammonia, laudanum, chloroform and spirits of camphor 1½ fluid drachms, creosote 8 drops, oil of cinnamon 2 drops, alcohol enough to make 1 oz. of the tincture. Put a tea-spoonful of this in a wine-glass of ice water, and give one tea spoonful of the solution every five minutes until the patient decidedly improves, then lengthen the intervals of doses till the symptoms all abate. This treatment, the result of much experience during the

visitation of the cholera in 1849, 1850, and 1854, has been found very successful.

The limbs of the patient should then be rubbed well with some stimulating liniment: these frictions are to be followed by mustard poultices to the ankles, wrists, thighs and arms. In this stage, particularly at its very commencement, bathing the feet in hot water will frequently be followed by a very good effect.

Internally the patient should take iced water in small portions at a time; or when this is immediately rejected by the stomach, a tea-spoonful of powdered ice may be given every fifteen minutes. After the stomach has become calm and is capable of retaining medicine, the pill of camphor and opium, as directed in the first stage, should be given, and repeated every two, three or four hours according to circumstances.

By this treatment, in a very short period, the vomiting and spasms will be suspended, and the inordinate discharges from the bowels arrested. In many cases a dose of castor oil will now bring away copious stools of a very dark and extremely offensive nature, after which the bowels will return to their natural condition.

It is all important in this stage to prevent the patient from drinking too much; which, in consequence of his inordinate thirst, he will be very apt to do unless carefully watched. The warm and vapour baths do no good, but rather harm in the second stage of Cholera; and the most pernicious effects will in general result, if recourse be had to stimulants, or to inordinate doses of opium or laudanum.

Occasionally it will be found that there is a tendency in this stage to an overloaded state of the vessels of the brain, indicated by drowsiness, dilated pupil, and a dark flushed appearance of the countenance; here, cups to the temples or back of the

neck, with cold applications to the scalp, should never be neglected.

3. When Cholera has reached its *third stage*, to save the life of the patient will demand great circumspection, judgment, and decision on the part of the physician and attendants. The entire surface of the patient should be diligently rubbed either with the hand, or a flannel cloth, wet with a liniment composed of equal parts of spirits of turpentine and a solution of pure ammonia; after the frictions, large mustard poultices should be applied to the arms, wrists, thighs and ankles; and the feet should be enveloped in bags filled with warm bran or sand, and the whole body covered with a blanket.

By the treatment just detailed, the reduction of the symptoms is produced gradually: first there is a cessation of the profuse perspiration; the features then become more natural, the corrugation of the extremities disappears, and finally the livid colour of the skin is removed and the natural temperature of this part is restored.

Throughout the third stage of Cholera the patient should be supplied, at short intervals, with small quantities of powdered ice or of iced water. Even greater caution than in the second stage, will be required to prevent him from indulging his inordinate thirst; to guard him against the use of stimulants, and the too free administration of opiates. In the early period of this stage all kinds of food are to be abstained from: when convalescence has been established, the same remarks in regard to diet will apply as were made in reference to the first stage.

4. When the *period of confirmed collapse* has arrived, little hopes of recovery need be entertained. The patient should be carefully rubbed over the whole body with ice, then dried and wrapped in dry blankets outside of which bags filled with warm bran or bottles of hot water may be applied, and internally give champagne and ice, or rum and Selters water, or one gr. camphor every ½ hour, or spirits of hartshorn one drachm in 6 oz. sugar water, a table-spoonful every ¼ to ½ hour. Also rub the body with spirits of mustard, and for the cramps in the calves of the legs rub them with chloroform and camphor spirits.

As soon as reaction takes place and has been fully established, the treatment should be conducted as in the other stages. In the period of reaction let the patient sleep and perspire freely, and continue giving him Selters water and ice. To arrest the discharges from the bowels, give ½ gr. calomel every 3 hours with or without opium; if vomiting should take place, give small doses of morphium 1-15 gr.,—and a mustard plaster over the stomach; if there is a tendency of congestion to the head, apply cold iced cloths or leeches. After recovery, the patient must naturally be very careful for a long time with his diet.

DYSPEPSIA, OR INDIGESTION.

THERE are few complaints more prevalent, particularly among sedentary mechanics and artizans, students and professional men generally, as well as among the indolent and luxurious inhabitants of all large and wealthy cities, than those which have their origin in the stomach and the other organs concerned in digestion. The stomach and intestinal canal, parts of a most delicate structure and possessed of an exquisite sensibility, are not only hourly subject to injury from improper food and drinks, or an excessive indulgence of the appetite in a diet, which, if taken in moderation, would be altogether wholesome; but, by the close sympathy which exists between these and all the other organs, they quickly participate in the diseases of other and remote parts. Whether it be the brain, the lungs or the skin which suffers, the stomach cannot remain long in health. Hence, Indigestion is an attendant upon nearly every malady, both acute and chronic, to which the human body is liable. The symptoms of pain and uneasiness in the region of the stomach are often indeed the first which direct the attention of the patient to his real condition. On the other hand, the extensive sympathies of the stomach cause the diseases which may originate primarily in the latter to be extended quickly to the liver, bowels, brain, skin and lungs

It is this that renders indigestion so complicated and protean a disease—differing in its phenomena according to the period that it has existed and the constitution, age and sex of the patient in whom it occurs.

CAUSES.

The *causes* of Dyspepsia are of two classes. First, those which affect primarily the stomach; and secondly, those which disorder first some other organ, the stomach being affected secondarily or by sympathy.

Of the causes which affect directly the stomach, the principal are errors in eating and drinking Overfeeding, the use of too rich and stimulating food, of articles difficult of digestion, as fried meats, made dishes, gravies, clams, lobsters, fried oysters, rich soups, fresh bread, and pastry of all kinds; late and heavy suppers, eating rapidly without properly chewing the food, the excessive use of strong tea and coffee, the use of flatulent and indigestible vegetables and fruits, as cabbage, green corn, pickles, cucumbers, melons and the like, and the abuse of spices, are so many causes of injury to the digestive organs, and which, sooner or later, give rise to the train of symptoms characteristic of Dyspepsia. Exercise immediately after eating, or intense occupation or violent excitement of the mind, if constantly or repeatedly indulged in, by impeding the change of the food into chyme, and allowing it to ferment or become acrid, will always, sooner or later, induce Dyspepsia. All drinks excepting water, used as ordinary beverage, whether fermented or distilled, malt, vinous or spirituous, disorder the digestive organs, and give rise to the very worst kinds of dyspepsia. The tippler as well as the drunkard are almost invariably dyspeptic. Even lemonade, if drank in too great quantities or too frequently, will disorder invariably the stomach Smoking, chewing

and even constant snuffing, very generally produce Dyspepsia, as well by the waste and vitiation of the saliva, as by the narcotic or depressing effect which the tobacco produces upon the nervous system generally, or immediately upon the stomach. When, by any of these causes, the coats of the stomach are rendered morbidly irritable and its vital powers are impaired, the use of even the ordinary articles of food will be a sufficient stimulus to increase the disease, and develope the more aggravated phenomena of Dyspepsia. A cause of Indigestion which acts primarily upon the stomach and bowels, of not unfrequent occurrence, though but little suspected, is the imprudent or immoderate use of various medicines.

Any indiscretion—whether it consist in excessive indulgence in food, an occasional debauch or a too heavy supper—will give rise to certain symptoms termed in popular language bilious. Now the most prudent course would be abstinence for a day or two with the plentiful use of some bland diluent. But instead of this, resource is had to an emetic, to a dose of calomel or anti-bilious pills, followed perhaps by chamomile tea, or some aromatic tincture or stomachic bitter, or perchance a daily glass of brandy and water; and the slight irritation which exists in the stomach is in this manner not only aggravated but rendered permanent, and Dyspepsia ensues.

Of the causes which act indirectly upon the stomach in the production of Dyspepsia, the principal are, the want of sufficient active exercise; exposure to a damp, vitiated and confined atmosphere; sedentary and constrained positions of the body long in dulged in; close application or anxiety of the mind, together with all the exciting and depressing passions; late rising and prolongation of the occupations or amusements of the day during the greater part of the night; want of cleanliness, or rather inattention to the state of the skin; frequent vicissitudes of the weather; cold and damp; and a neglect to obey the

regular calls of nature for the evacuation of the bowels—excessive indulgence in venereal pleasures and various unnatural practices.

In casting the eye over the above list of causes, the reason will be readily understood why Dyspepsia is of so frequent occurrence among nearly all the classes which compose the population of a large city.

The sedentary artizan confined for the greater part of the day and night to a small, close, and often dirty and crowded workshop, his body bent constantly over his task, while his mind perhaps is harassed by the anxious thoughts occasioned by the wants of a numerous family immersed in poverty, or the painful reflections to which a view of his own folly may have given birth—The slave of luxury or of pleasure, whose whole existence is spent in listless apathy or in a round of dissipation, who consumes the night amid scenes of riot or of folly, and the morning in unrefreshing slumbers or in entire indolence—The industrious mechanic and shop-keeper, whose minds are absorbed by the cares of existence and their bodies imprisoned within the narrow confines of their respective shops—The enterprising merchant, the ambitious student, the aspiring politician, the man of letters and the members of the various professions, who, in addition to their sedentary habits, have a thousand causes to vex and agitate their minds, and too often add to these, errors in diet and indulgence in intoxicating drinks—Finally, the numerous slaves of vice and sensuality produced by the folly, and nurtured by the wealth of every prosperous and crowded city: These all constitute so many victims to Indigestion, as well as to numerous other diseases.

Those most exempt from diseases of the stomach are individuals of temperate habits and contented minds, whose inclinations or whose occupations carry them abroad into the open air and impose a necessity for active and regular bodily exercise The employments most friendly to health of stomach

and of the body generally, are those of the farmer, and the gardener, who at the same time adhere to regular hours and sober habits, and are removed at once from the deteriorated and unwholesome atmosphere and follies of the city, and the thousand sources of care and anxiety to which its inhabitants are daily subjected.

SYMPTOMS.

The symptoms of Dyspepsia are very numerous and diversified—they differ according as the disease is confined to the stomach and bowels, or has extended to the liver, the brain, the skin, the lungs and other organs. The phenomena by which the disease is most usually accompanied, are a sense of distension or oppression after eating, acrid or sour eructations, flatulence with frequent belching of wind, impaired appetite, vitiated taste, increased thirst, constipation and uneasiness of the bowels, sometimes looseness, coated tongue especially in the morning, loss of strength, disinclination to exercise, and a general feeling of depression and indescribable weariness. When the bowels are moved, the stools are unnatural, being either green, black or very light. Nausea, headach, vertigo and dimness of vision are very generally experienced, and sometimes bilious vomiting; a burning sensation at the pit of the stomach is not unfrequent; sometimes the patient experiences a violent pain of the stomach which terminates by a copious discharge, by the mouth, of an insipid or perhaps intensely acid, colourless fluid of a glairy consistency. Palpitation of the heart likewise often attends; with pain in the pit of the stomach or towards the right side, sallowness of complexion, depression of spirits and irritability of temper. The patient is sleepless at night and drowsy during the day, or his slumbers are disturbed by the most frightful or distressing dreams. Sometimes the body is

extremely emaciated, at others it appears fat or rather bloated. The whole of the foregoing symptoms are not, however, present in every case of Dyspepsia; but under whatever form, and from whatever cause the disease has originated, there is always a considerable degree of general languor and debility, and a great susceptibility to atmospherical vicissitudes; exercise, or exertion of any kind soon fatigues; the pulse is weak or morbidly excited, the sleep disturbed, the limbs, especially the feet are cold, or rendered so by slight causes; and a sense of distension and oppression, acid eructations, flatulence, nausea, headach, irregular bowels, pain in the pit of the stomach, sallowness of the complexion and dryness of the skin are pretty constantly present.

Frequently there is a good deal of feverish heat, with flushing of the face, dryness of the mouth, thick coated state of the tongue, pain on pressure at the pit of the stomach, weakness of the knees, wandering pains of the limbs and body, and a dry scurfy state of the whole surface.

In the more aggravated forms of Dyspepsia there is often constant violent pain in the stomach; frequent vomiting of dark matter, the utmost debility and emaciation of body, and extreme despondency of mind. In others there are cough and expectoration, hectic fever, night sweats, and a wasting diarrhœa.

Frequent and dangerous mistakes are often made in relation to the seat and real nature of the disease giving rise to the symptoms of Dyspepsia. The bitter taste in the mouth, nausea, bilious stools and sallow complexion, have led many to ascribe them to a disease of the biliary organ—hence it is not unfrequent to hear dyspeptic patients complain of being *bilious* or of suffering from *liver complaint.* But though in very many cases the biliary secretion is disordered, yet for the most part this is a secondary and sympathetic affection, dependent upon the irritation or disease seated in the stomach and upper portion of the intestines, and quickly disappears upon

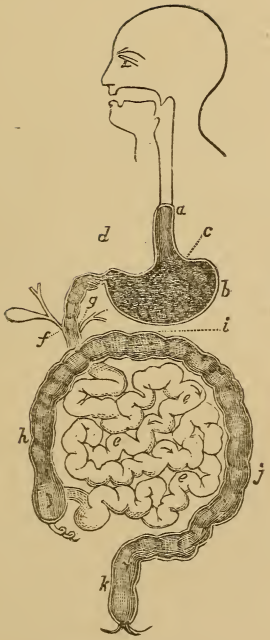
the removal of the latter The practice resorted to under the supposition of bilious derangement being the chief cause of the symptoms, is highly pernicious, very generally aggravating and complicating the primary disease. Emetics, frequent doses of calomel and other purgatives, and the various irritating remedies so generally employed, always do more or less injury to the already diseased stomach.

Other patients, paying attention solely to the sense of exhaustion, the disinclination to exertion, the want of appetite and the sallowness of the complexion, believe the whole of the symptoms under which they labour to be the result of pure debility. Tonics, stimulants, wine, brandy and porter with rich nourishing food are resorted to, but without the least good effect. The disease proceeds onwards even more rapidly than before, and the mistaken patient becomes daily more and more weak. The remedies he has taken have acted like oil thrown upon fire: instead of removing the debility of the system they have merely increased the irritation of the stomach, and secondarily of the other organs.

By others again the symptoms of Dyspepsia are supposed to be nervous; and valerian, ether, musk, assafœtida and bark are profusely administered to relieve them, by strengthening, as it is presumed, the nervous system. It is very certain that many of the symptoms from which dyspeptics very commonly suffer depend upon an affection of the nervous system; but the treatment usually resorted to, in order to remove such affection, is altogether improper, it keeps up and aggravates the disease of the stomach by which the nervous affection has been produced

PREVENTION.

The prevention of stomachic diseases, including Dyspepsia, will depend upon a cautious avoidance of



ALIMENTARY CANAL.

a, œsophagus; *b*, stomach; *c*, cardiac orifice; *d*, pylorus: *e*, small intestine; *f*, biliary duct; *g*, pancreatic duct; *h*, ascending colon; *i*, transverse colon; *j*, descending colon; *k*, rectum.

their remote and exciting causes. Let an individual live upon plain wholesome food, cooked in the simplest manner and eaten in moderation. Let him drink nothing but water, and allow to his meals a sufficient space of time, so that he need not eat with haste, and swallow his food without properly chewing it. Let him shun crowded, ill ventilated apartments, and take a sufficient amount of active exercise in the open air daily. Let him retire to rest at an early hour at night, and rise from his bed with the sun. Let him make no use of tobacco in any form. Let him cultivate an even, contented and cheerful frame of mind, and shun as much as possible every source of engrossing care, and of deep depressing emotions. "Living wisely," as an old writer justly expresses it, "rather in the shade, than risking his happiness upon the smiles and the whims of fickle men;" let him fly from dissipation, folly and vice of every kind, and he will seldom be troubled with Dyspepsia.

TREATMENT.

The first and most important point in the treatment of Dyspepsia is to relinquish whatever cause has laid the foundation for or given rise to the complaint, and which continues to aggravate it. This will of itself often be sufficient, especially in its early stages, to remove entirely the disease. If the patient leads a fashionable life, it will be necessary for him to forsake at once the haunts and habits of dissipation; to leave the crowded city, to shun luxurious tables, rich wines, strong drinks and late suppers; to renounce his indolence and late hours; and to return to a simple and rational mode of living. He must seek pure air, engage in active regular exercise and in pleasing out-door occupations, retire and rise early, make use of a simple moderate diet, and court the society of a few cheerful and intelligent friends. The plodding student must in a great mea-

s ire lay aside his books, and extinguish his midnight lamp; the fagging tradesman and merchant will find it indispensably necessary to seek daily, active exercise in a pure air; the tippler and the drunkard must give up their potations. In short all dyspeptics must exercise for several hours each day out of doors; they must rise early and take a sufficiency of sleep during the night; they must seek cheerful conversation; and carefully and constantly observe a moderate, plain and wholesome diet.

Among the articles from which the individual labouring under Indigestion must entirely abstain are to be included all species of very fat, salted, dried, smoked or fried animal food; veal in almost any form, rich soups and sauces, spices, pickles, cucumbers, all flatulent vegetables, particularly cabbage, mashed potatoes, melons, unripe fruit, also sausages, fish, particularly salted fish and that which is fried, fresh bread, hot toast, pastry, fried oysters, crabs and lobsters, animal jellies, tea, coffee, malt liquors, wine, ardent spirits, and tobacco whether in snuffing, chewing or smoking.

The dyspeptic should never take so much food at one meal as to cause a feeling of fulness or distension in the stomach; and, except under very particular circumstances, he should confine himself to three meals a day; the last one to be taken at least two hours before going to bed, and to be very light.

The best common beverage for a dyspeptic is pure water, or toast and water.

It is a common but very erroneous opinion, that persons with impaired appetites and feeble powers of digestion ought to eat little at a time and often. Such a practice is altogether injurious. By taking food in small portions almost constantly, no time is allowed for the proper digestion of that previously eaten, and the stomach is in this way kept in a constant state of activity and of irritation. Instead of gaining strength, it becomes more enfeeb-ed. As a general rule, subject to very few ex

ceptions, no food should be taken in the intervals of the meals.

Riding on horseback is a highly beneficial exercise for those labouring under Indigestion; it gives a motion to the abdominal organs, which is communicated by no other kind of exercise. Daily walking in the open air must not however be neglected. A combination of these two species of exercise is preferable to either alone; for riding chiefly exercises the abdominal viscera, and walking the limbs and thoracic organs. Exercise should never be taken immediately after a meal, nor carried to the extent of inducing undue fatigue.

The feet, chest and abdomen of dyspeptics should be especially guarded from cold. If there is considerable torpor of the skin and a feeling of chilliness from slight reductions of temperature, flannel should be worn next the skin, during at least the colder and more changeable months of the year. Woollen stockings and a flannel roller around the abdomen are always important articles of dress to the dyspeptic. At night, the bed clothes should not be more than are sufficient to keep the body comfortably warm, and a mattrass is always preferable to a feather bed.

The following are the principal symptoms which seem to demand relief in Dyspepsia.

1. *Costiveness.*

There are few points of greater importance in the management of Dyspepsia than the proper regulation of the bowels. They ought to be fully evacuated once in the twenty-four hours. To do this, the habit of soliciting a discharge at a regular period of the day by the natural efforts will often succeed. Habitual costiveness in those inclined to indigestion is often caused by neglecting the calls of nature. If this have not the desired effect, a diet composed of laxative vegetables, as well-boiled spin-

nage, boiled turnips squeezed perfectly dry, well-boiled oat-meal gruel, chicken or veal broth, or some of the summer fruits, perfectly ripe, eaten raw or after being cooked, will very generally produce a free state of the bowels. Let it be recollected that although the articles of food just enumerated may be highly improper for the ordinary use of the dyspeptic, yet taken occasionally, merely with a reference to their laxative effects, no harm but much good will result from them. Bran bread or crackers, used constantly, will often remove costiveness. If costiveness still continue in conjunction with regular active exercise and early rising, frictions over the whole of the abdomen night and morning should be resorted to. The practice of shampooing, rendered some time since very popular in this city by the announcements and publication of Mr Halsted, will not unfrequently succeed in causing regular evacuations by stool, and obviate the necessity of resorting to medicine. This practice will be detailed hereafter. The use of the warm bath should never be neglected. When medicines are demanded, they should be of the most gentle kind and not too long persisted in. A combination of magnesia, rhubarb and small portions of ipecacuanha is a very excellent purgative in dyspeptic cases; so are the seidlitz powders, if not too often repeated. A pill composed of the blue mass, soap, myrrh and ipecacuanha, will be in many cases productive of the best effects The utmost care must be observed, however, not to produce active purging or any considerable irritation of the bowels, in attempting to relieve costiveness—whatever remedy is used, its effects are merely temporary; a regular state of the bowels can be obtained permanently in no other way than by a proper diet and regimen, in addition to the other means calculated to restore to the digestive organs their healthy tone and functions

2. *Flatulence.*

To remove this unpleasant and troublesome symptom, strict attention must be paid to diet. Food in any degree irritating, acid or fermentable must be abstained from. Active exercise must be taken in the open air, and frictions over the stomach repeated several times a day. As a palliative, a glass of water in which a few grains of the bicarbonate of soda have been dissolved, or perhaps what is better with the addition of a few drops of aqua ammoniæ, will often be found useful. There is danger however of increasing the irritation of the stomach when this is too often repeated. The cause of flatulence is the disordered state of the digestive organs; when this is remedied the former will cease. We must caution the dyspeptic against the too customary practice of resorting in cases of flatulence to mint water and various aromatic tinctures, brandy and water, and similar stimulants: from such remedies the most mischievous effects are to be apprehended.

3. *Violent Pain of the Stomach and Bowels.*

In some cases of Dyspepsia the paroxysms of pain are so intense that for their immediate relief opium must be resorted to; the best form for its administration will be in the form of a powder composed of one grain of opium or one third of a grain of sulphate of morphia with ten grains of magnesia and one of ipecacuanha. The relief obtained in this way, however, is only temporary; and to repeat too frequently the remedy will be productive of mischief. The calm resulting from opiates in Dyspepsia very often leads to their habitual use; but this never fails to aggravate the disease and render its cure more difficult, if not impossible. Ten grains of pepsin with three grains of the subnitrate or carbonate of bismuth, taken before each meal, will be found of very great

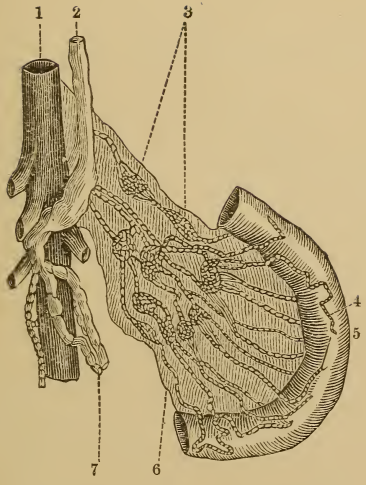
benefit in these cases. In very many cases the pain of the stomach will be removed by warm fomentations over the abdomen, and by cups to the region of the stomach or along the spine.

4. *Nausea and Vomiting.*

Nausea and vomiting are often distressing symptoms in cases of Dyspepsia. To relieve them, cold toast water, or a draught of soda water taken in a state of effervescence, will very commonly be found useful remedies, in conjunction with a proper attention to diet. When the vomiting is very distressing, a blister should be applied over the pit of the stomach.

5. *Constant Soreness and Pain of the Stomach.*

Soreness of the stomach, great tenderness under pressure, or constant pain in that organ, is frequently present in protracted cases of Dyspepsia. It is sometimes accompanied with burning of the soles of the feet and palms of the hands, or dryness and heat of the entire surface. In these cases the use of all solid food must be abandoned, the patient being confined solely to toast water or gum arabic tea; ice bladders or cloths dipped in cold spring water and wrung out, should be applied without delay over the stomach, and repeated if the symptoms be not removed the first time, or if they recur subsequently. The patient should not in such cases make use of any very active exercise. The pain and tenderness alluded to depend upon a greater or less degree of inflammation seated in the lining membrane of the stomach and upper intestine; which, unless it be promptly removed, may produce a degree of disorganization in these important organs from which recovery can scarcely be hoped for.



CHYLE-VESSELS OF THE MESENTERY.

1, aorta; 2, thoracic canal; 3, lymphatics; 4, radicles of the chyle-vessels; 5, intestine; 6, mesentery; 7, lymphatic vessels.

GENERAL REMEDIES.

We have next to consider some general remedies demanded for the cure of Dyspepsia.

1. *The Warm Bath and Frictions.*

So intimately connected are the stomach and skin, that one of these parts can scarcely ever be involved in disease without the other suffering likewise. It is important therefore, in all cases of Indigestion, to promote the health of the external covering of the body—by exciting it to a regular discharge of its functions. This is best effected by the use of the warm bath and by frictions. When properly used, these means seldom fail to prove highly refreshing, to remove many of the symptoms most distressing to the patient, while they aid greatly in bringing back the digestive organs to a healthy condition. From ninety to ninety-six degrees is the best range of heat of the bath for the use of dyspeptics; and the proper time for resorting to it is in the morning, between breakfast and dinner. The patient may repeat the bath three or four times a week, and remain in it from fifteen to thirty minutes, according to his feelings, which ought to be comfortable on coming out of the water. A gentle walk or ride should follow the use of the bath whenever the weather is favourable. When the warm bath cannot be conveniently procured, or when it fails in producing a beneficial effect, which will seldom however be the case, tepid sponging may be substituted. That is, the whole surface of the body is to be sponged regularly every morning with tepid water, or salt and water; the patient immediately afterwards rubbing himself perfectly dry with a coarse towel. This is a very refreshing and beneficial practice, and one which Sir Astley Cooper considers to have very materially

contributed to ensure the excellent health which he so long enjoyed. He uniformly resorted to it immediately on rising from his bed. Frictions over the surface with a towel or flesh brush without sponging may also be resorted to with the best effects in the evening, or just before retiring to bed. This is a very effectual means for producing sound and refreshing sleep, and causes the patient to awake in the morning with renewed strength and vigour.

2. *Mr Halsted's Method.*

On principles similar to those on which the warm bath and frictions act, in removing Dyspepsia, is to be explained the practice of Mr Halsted, which he recommends as a specific in this disease. The plan of treatment to which we allude is commenced by applying over the anterior part of the abdomen an emollient poultice or cloths wrung out of warm water, and repeating these until the abdominal muscles become perfectly flaccid. The patient being placed in such a situation, either standing or sitting, as shall most completely relax those muscles, the hand of an assistant is to be insinuated deep into the soft parts, in such a manner as that the bowels shall rest in some measure upon the open palm. Then by a quick but gentle motion these parts are to be pushed upwards towards the stomach, and in this manner agitated daily or oftener until an evident change for the better is produced, when the frequency of its employment is to be gradually diminished.

This is by no means a new plan; it differs but little from that recommended and employed by admiral Henry in 1787. This latter directs the patient whilst in bed, by means of a bone rounded at the end in each hand, to knead the bowels as much as possible, particularly about the navel, causing, "the two instruments to meet among the bowels as much as they can be forced to do."

From frictions and the warm bath diligently persevered in, all the good effects resulting from the practice just described will be obtained, and with less trouble to the patient and less danger of doing mischief when the stomach or bowels are morbidly tender or inflamed.

3. *Mineral Waters.*

The use of the natural mineral waters has been recommended in cases of Dyspepsia, and instances are related of marvellous cures effected by their agency. The water, impregnated with saline or mineral substances, of many of the natural springs, will, no doubt be found of advantage in some of the forms of stomachic disease, both inwardly and as a bath. But we are persuaded that the good effect frequently ascribed to these waters is dependent equally upon the journey; the agreeable occupation of the mind; the pure air and daily exercise at the spring, and the breaking up for a time the ordinary bodily and mental occupations—the absence, for a season, from the fatigue and anxious cares to which the individual had been previously subjected. In the same manner a sea voyage will often effect a complete cure.

4. *Tonics and Bitters.*

We forbear to enumerate the numerous tonics—mineral and vegetable, the bitters and aromatics that have been at different periods, and are still by many writers, recommended for the cure of Dyspepsia. Unless aided by the treatment already laid down they can do no possible good; with it they are seldom if ever needed. They have in fact produced more injury by far than benefit—by being resorted to at an improper period of the disease, or continued for too long a period A light bitter or some simple tonic may, towards the termination of the disease, add tone to

the stomach, but by no means so certainly or effectually as will a proper diet, regular exercise, pure air, cheerful employments, and the disuse of the various injurious agents usually introduced into the stomach.

CONCLUSION.

We may remark, in concluding, that the plan of treatment we have laid down must be persevered in for a considerable length of time before any effectual relief is to be expected: stomachic diseases of any standing cannot be removed in a few days. It is important also that the treatment be uniformly persevered in, until the cure is effected and the functions of the stomach are completely re-established. It will not do to adhere to the rules laid down for a week or two, and then commit an act of folly or of dissipation, returning afterwards in hope of benefit to a temporary course of prudence and of temperance. Such conduct is more than madness—nothing but disappointment can result from it.

Dyspeptics, from the desponding state of mind under which they most commonly labour, and an erroneous and exaggerated opinion of the nature of their disease, of its extent and danger; as well as from their want of patience to pursue a long uninterrupted series of gentle remedies, and the false estimate very generally made by the public of the efficacy of diet and regimen unaided by some potent medicine internally administered; render themselves the willing dupes of every needy and impudent empiric. Temporary relief is often obtained from the pills and panacea of the latter; but the disease, nevertheless, becomes more deeply rooted, and the unfortunate patient for a moment's ease is made to suffer for life. The dyspeptic should always view the empiric as one of his greatest enemies—the one most to be dreaded

SICK-HEADACHE.

This disease is the result of our advanced state of civilization, the increase of wealth and enjoyments in the power of most people in this country, and of the luxurious and enervating habits in which those in easy circumstances indulge. It is unknown among the natives of our forests, or among those of the frontier inhabitants whose necessities oblige them to live in a manner the reverse of that common among the inhabitants of the Atlantic states, and particularly the residents of our large cities and towns, among whom the complaint very generally prevails. Some of their habits are indeed of a nature directly calculated to lay the foundation of the complaint; but the vigour of their constitutions and daily exposure to pure air, aided by constant exercise, are more than sufficient to countervail their bad effects.

The stomach is the seat and throne of this disease, and affects the head by means of that sympathetic connexion which it holds with it and every organ of the human body. High living, over-eating, late hours, disposition to acidity in the stomach, partial mastication or long continued use of food of difficult digestion, suppers, indolence, relaxing habits, and the presence of bile in the stomach, are the general remote causes. Our remedies therefore must be

directed to the stomach, and the restoration of its nervous functions, the impaired state of which occasions the agony endured by those who labour under the complaint. The desirable change however must be effected by slow degrees; for the stomach gives way slowly, and the means of cure must be gradually applied. The length of time required to re-establish the tone of the nerves of the stomach, will vary in different persons in proportion to the violence of the disease, the fidelity with which the sufferer follows the advice given, and the susceptibility of the stomach to the impression of the remedies, and food prescribed: the object of their exhibition however *will be obtained* sooner or later.

SYMPTOMS.

An attack of the disease most commonly *forms* in the course of the night, and on awaking, a pain is felt in some part of the head, but generally over one or both eyes. More or less languor attends it, with a diminished or total disrelish for food, and great sensibility to light. After continuing for one or two days, and even longer, if no remedy be taken, a nausea sometimes succeeds, which finally ends in vomiting, or this may easily be excited by a draught or two of warm water: in either case, relief is soon obtained from the more acute symptoms, and sleep follows—though a distressing soreness and confusion of the head succeed, which gradually go off, and health is restored. In some cases the pain in the head is preceded by a dulness and heaviness of the eyes, and confusion of the brain, which finally terminate in the fixed pain. Cold feet sometimes precede an attack, and constitute the first symptoms of its approach.

MEDICINES.

In commencing a regular plan for restoring the tone of the nerves of the stomach, a laxative ought to be the first remedy; as rhubarb, of which twenty, thirty or thirty-five grains, in powder, may be taken early in the morning in syrup, or in the form of pills of a convenient size made with the same material, or, which is preferable, with castile soap, on account of its purgative power. Its activity may be quickened, and the object of its exhibition promoted, by the addition of one or two grains of aloes, if no objection to it exist, arising from its effect on the rectum, or from its harsh operation on the stomach or bowels. During the operation of the medicine, several tea cups of thin gruel made of oat meal or corn meal, to which so much salt has been added as to be perceptible, should be taken. The breakfast after this prescription, and through the treatment, may consist of a cup or two of weak souchong tea, with a soft boiled egg, weak coffee, water in which chocolate nut-shells have been boiled, or prepared cocoa, with a slice of dry stale bread. The dinner must be of the lightest kind, of any of the articles hereafter specified.

In southern constitutions, an attack of the disease is generally brought on by the presence of bile in the stomach, the removal of which is therefore indispensably requisite previous to taking any medicine to relieve the headach, or to the commencement of any regular system of prevention of the disease. An emetic of ipecacuanha, in this case, will be absolutely necessary, of which fifteen, twenty, or twenty-five grains (according to ease or difficulty of being operated on by it) may be taken in half a wine-glass of water. Two vegetable anti-bilious pills will insure its full operation, and the complete removal of the offending cause. The emetic may be worked off by

a tea cup or two of weak chamomile tea, taken at intervals, after the medicine has operated two or three times. The evening is the most suitable time to take the emetic, after the operation of which sound and refreshing sleep most commonly follows. In case the medicine does not operate on the bowels once or twice, the dose of rhubarb and aloes before mentioned, or twenty or twenty-five grains of jalap or rhubarb, with four or five of calomel (if the bowels are difficult to move), may be taken the following morning or night, and worked off by gruel of corn or oatmeal. Nausea from the calomel is in general prevented by the addition of a few drops of essence of peppermint, or a tea-spoonful of compound spirit of lavender. If it come on, it may be relieved by a few spoonsful of a watery infusion of cinnamon or ginger, or by a little mint water. No fear need be entertained of the proportion of calomel prescribed affecting the mouth (unless the system be uncommonly sensible to its effects), for the quantity added to the jalap and rhubarb insures its passage through the stomach and bowels—whereas a smaller dose might not be removed, and would then touch the mouth; at the worst its effects will only be temporary.

This important preliminary being settled, the patient must commence with the following medicine

Prepared rust of iron, 1 drachm (60 grains),
Columbo root, fresh powdered, 2 drachms,
Orange peel, 3 drachms.

Mix and divide into twenty papers: one to be taken morning and evening, in a small quantity of jelly or syrup, and washed down with a wine-glassful of cold water.

After taking the above medicine for four weeks, rhubarb, recently powdered, may be substituted for the columbo, and if it be desired to render it more grateful, cinnamon may be added to the whole. If the dose be inconveniently large, the number of papers may be increased to thirty. After another month's use of this new prescription, the bitters may

be omitted for four or five weeks, and the prepared rust of iron used alone.

The occasional presence of bile or acid in the stomach, an occurrence that is easily known by the invalid, must be removed, by some anti-bilious pills for the bile: and for the acid, by twenty or thirty grains of magnesia, or dried subcarbonate of soda in the dose of from ten to twenty grains, in pills made with castile soap, three or four of which may be taken in a day.

We have known Fowler's mineral solution given with great benefit in this disease: and our confidence in its powers, induces us to recommend it in violent cases. When taking it, the patient is not to drink cold water, or take cold.

The dose may be from three to five or ten drops at the utmost, in half a wine glass of water, early in the morning, for an adult. If nausea be produced, it may be taken when going to bed, or one or two hours after a meal. The addition of a tea-spoonful of compound spirits of lavender (where this medicine has not previously been added) renders it more agreeable, and prevents nausea. It must be discontinued, for a short time, when swelling in the face, or a sense of fulness in the eyes, is perceived. After the return of a fit, it may be again commenced. If nausea, or griping follow its use, the dose must be lessened.

A tea-spoonful of common salt, dissolved in half a pint of water, and taken frequently in the course of the day, has afforded temporary benefit in a few cases; but we do not recommend it, by reason of its uncertainty.

The use of cider, as a remedy in this disease, was long since highly extolled by Dr N. Dwight of Connecticut: but we are convinced that the relief obtained by it must be only temporary; and we have known many, too many instances of ruinous attachment to strong drink, from early morning doses of tincture of Peruvian bark, and the infusion of other

vegetable tonics in Port wine, to prevent or cure fever and ague, dyspepsia, or complaints called nervous, to permit us to sanction the use of even cider for Sick-headach.

DIET.

As bread constitutes so large a portion of our daily aliment, and forms a most important item in the articles by which a cure of this distressing complaint is to be effected, it demands the first notice.

Bread should be light, and none other must be touched. There is no excuse admissible for heavy bread. If corn bread be used, it should be eaten in the form of thin, crisp cakes. I cannot conceive a more injurious article of diet, to a weak stomach, than the hot corn bread of the southern states. No wheaten bread should be eaten, unless twenty-four hours old. Economy and health unite in proscribing fresh bread as an article of diet: for, however palatable, it is highly injurious to the stomach, and tries its powers more than almost any other of the causes of disease. During the years of youth, when the natural vigour is daily deriving an accession of strength,—or, in constitutions enjoying greater powers of the stomach than are absolutely required for the purposes of digestion, fresh bread may be eaten with impunity for years; but I will venture to assert, that every meal in which it is taken, will detract some little from the powers of that organ, and that, in time, it will show its effects. As an attachment and relish for bread one day old is acquired in a short time, the sooner the former is left off the better; *indeed a cure must not be expected, so long as the use of fresh bread is indulged in.*

In cases of severe affliction from the disease, and where a disposition to acidity prevails in the stomach, it is advisable to lay aside raised bread altogether, and to substitute shipbread or crackers, or rice boiled

dry. Where the teeth have failed, biscuits may be soaked in cold water, a short time before they are wanted. Bread made from unbolted wheaten flour, commonly called bran bread, is to be preferred to white bread.

That species of animal food which has been found to agree best with the invalid should be eaten, and none else. Wild meats, being more tender, and more easily digested than the flesh of domestic animals must be taken advantage of whenever occasion will permit. Our markets annually furnish, in the proper seasons, abundance of venison, which, of all our meats, is the most proper for those afflicted with a weak stomach, or Sick-headach. Game of all kinds, and rabbits, afford an ample variety of tender food. Beef is an article upon which we can subsist longer without disrelish, than almost any other. The part of the sirloin, containing the tenderloin, should be preferred; though other parts, provided they are tender and juicy, may be eaten. Good mutton may be a standing dish. If either be roasted, the over done outside parts are to be avoided, being difficult of digestion. Beeves' tongues, salted and smoked and corned beef, are equally proper, and even medicinal, owing to the stimulus of the salt used to cure them. In general, corned beef is not half boiled by American cooks. Slow, steady boiling, for several hours, is requisite, to render that article sufficiently tender for a deranged stomach. Rapid boiling occasions a waste of fuel, dissipates with the steam the volatile and savoury particles of the meat, and thus renders the article less good and palatable. The water in which meat is boiled, should be kept just at the boiling point. The same rule holds in regard to soup.

The lean part of a white fat fillet of veal may be occasionally eaten. The knuckle of veal must never be touched, being very difficult of digestion.

Of shell-fish, crabs and oysters are the only species allowable. The latter should always be accom

panied with a due proportion of bread or biscuit, to compel mastication, and prevent over-eating. Lobsters are inadmissible.

There can be no objection to trout, rock (streaked bass), black-fish, sea-bass, sheepshead, perch, flounders, and whiting. Boiled fish are generally found more easy of digestion, than when otherwise prepared. The use of other fish must be regulated by the effects produced on the individual eating them.

Soft boiled eggs, poultry, and ham well boiled, may properly constitute a part of the dinner of an invalid. Pork, unless young, and fed on corn and milk, is too strong; and in any case, the lean part only should be eaten Meat pies are ruinous to the stomach of all subject to Sick-headach.

But whatever may be the article of animal food that constitutes the material of dinner, the following rules ought to be constantly observed:

1. If the meat be not salted, it should be kept as long as possible before it is cooked, that it may be tender.

2. Whether roasted, boiled or stewed, meat ought to be done until tender. French cooks pay much more attention to this point than those of America or England.

3. Simplicity in diet is essential to those subject to Sick-headach. The weak stomach revolts at the task of overcoming the difficulty of digesting a dinner composed of numerous ingredients, and either rejects them, or *labours* to do the hard duty thus imposed. It may succeed, after a time, though every such exertion tends infallibly to increase the disease in question.

The dinner ought to consist of one dish of animal food, and one or two of vegetables, besides bread; for the stomach is less strained to extraordinary activity, than when several different articles are eaten. Besides, some articles, apparently of the same nature, do not agree when mixed, and may do harm by creating a disturbance in the stomach, the quiet of which

it is important to preserve. The principle of this harmony of aliments applies almost with equal force to vegetables, among which we see agreements and disagreements, almost as great as those we remark in the mixture of two articles of animal food, or of fish and flesh. There are few articles upon which we can live so long without tiring, as beef, potatoes, and rice. These are so innocent, and so well adapted to give tone to the stomach, that they ought to constitute the diet of such as are labouring under a Sick-headach, as long as they can be procured, or taken without disrelish. Much of their excellence, however, depends upon their cooking. It is essential that the potatoes be mealy, and that the rice be boiled dry: as this article agrees with most persons, every invalid is urged to use it as steadily as possible. Green peas, carrots, parsnips, and small hominy, may occasionally be substituted.

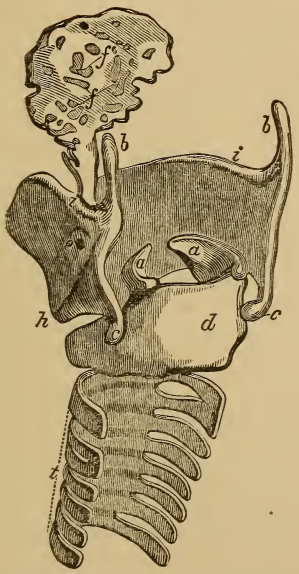
4. Slow and complete mastication of food is indispensable. The pleasure, moreover, of eating, is very much increased thereby; because the organs of taste are more forcibly impressed than when the food is a shorter time retained on them, by imperfect mastication. Another advantage of slow eating is, that, the stomach being gradually distended, there is less danger of its being overloaded, and it is less sensibly affected by the subsequent relaxation, than if the food be hastily swallowed. When slowly and fully comminuted, the food is also more equally exposed to the action of the saliva and gastric liquor, which are designed by nature to dissolve it. The digestion of food is thus promoted. Long intervals between meals render the adoption of this practice very difficult; for the keenness of the sensation of hunger involuntarily forces us to eat quickly. The invalid should, therefore, never permit that sensation to proceed further than to cause a relish for food which should consequently be taken as often as is requisite, without reference to the regular hours of the family meals. Various articles can always be at

hand. But, on the contrary, unappeased hunger is not less injurious, than adding to the load in the stomach before the previous meal has been digested. The inevitable consequence of this repletion is, that digestion is disturbed, the organ is unduly roused to overaction, and, in the end, evinces the loss of vigour, by the occasional derangement of its nerves, and the production of the distressing sympathetic affection of the pain of the head. The effects of such indiscretion are often shown several days after it has been committed; but most commonly the next day.

5. Moderation in diet must always be attended to. The stomach may be injured, by being overloaded with simple food, as certainly, though not so speedily, as by other food of improper quality. The invalid should leave off eating, the moment the first distention of the stomach is perceived. Slow mastication favours satiety, without inducing undue distention. The dinner should consist principally of vegetables. Most persons in the United States eat much more animal food than is necessary for or consistent with health.

The rule with respect to butter shall be short. A more innocent article of food is not to be found than pure fresh butter, nor a more injurious one than strong butter The former may, therefore, be safely taken in moderation, provided it be found not to disagree with the stomach. This point can easily be settled by the invalid. Many physicians, without consistency or reflection, cry out against fresh butter as noxious, and yet will prescribe repeated doses of castor-oil, without once inquiring whether it is not, as it often is, offensive from rancidity. The most innocent mode of using butter is to spread it cold on bread twelve hours old, or on biscuit previously soaked.

Soups of every kind are highly injurious to those troubled with Sick-headach, and ought therefore to be avoided. They suddenly distend the stomach without giving tone, and, in the way usually made



CARTILAGES OF LARYNX AND EPIGLOTTIS, AND UPPER RINGS OF TRACHEA, SEEN FROM BEHIND.
(Taken from Todd and Bowman.)

a, arytenoid cartilages. *b*, superior cornua of thyroid cartilage. *c*, its inferior cornua. *d*, posterior surface of cricoid. *f*, epiglottis, with its perforations. *h*, its left inferior tubercle. *i*, upper margin of thyroid. *t*, trachea.

are injurious, from the grease they contain and which, from the heat they are subjected to, are much disposed to create acidity.

The best gravy of all roasted meat is its own liquor. An invalid's stomach is better without any. The ranced fried liquid fat, passing under the name of gravy, is ruinous to the stomach of those subject to Sick-headach. Vinegar pickles must be shunned. They are injurious from the indigestible nature of the solid article, and from the acid used in their preservation. But mustard and horseradish may be safely eaten; they are gently stimulating; and in an habitual colic, arising from gout, the latter has been eaten at all hours, with the most marked benefit.

Vegetable acids of all kinds, and fruits, are highly injurious. Some of the latter may be more particularly hurtful, on account of the difficult digestion of their skins. Cherries in one case, and apples in another, excited severe attacks of the disease.

It will be observed that we have said nothing about *desserts*. We proscribe them all. There can, indeed, be no objection to plain puddings made of rice, bread, biscuit or potatoes, provided the butter in them is not found to disagree with the stomach, and provided they are eaten sparingly, and after a moderate dinner. Calves-feet jelly, without wine, is equally innocent, and may be taken to the extent of a glass with safety. A plain apple pie, with well baked and very light crust, may also be occasionally eaten, with the same caution as to quantity: but we hold up both hands against rich pastry, and a variety of rich puddings which the ingenuity of cooks have invented to please the palate at the expense of health. They are death to a stomach subject to the derangement of nerves producing Sick-headach. The invalid is better without any dessert; for granting that the articles are in themselves innocent, yet they may be injurious by their bulk, and by disagreeing with those constituting the substantial part of the dinner. Besides the stomach acts with most vigour when

employed in digesting the fewest articles; and, therefore, it is wrong to try its powers by undue exertion, or even to risk its derangement by a mixture of food. If any argument be necessary to urge the adoption of this simple diet, and to reconcile those subject to Sick-headach or dyspepsia, to the deprivation of their usual supposed comforts, let it be remembered, that the more steadily they submit to the discipline recommended, the sooner the object of it will be attained. Let them also reflect, that in exchanging temporary sensual gratification, and consequent suffering, for the habits and food that will, in a short time, prove as agreeable as those they have relinquished, they will also acquire light pleasant feelings, elasticity and serenity of mind, and all those sensations arising from the permanent enjoyment of good health, and freedom from pain; and above all, for uninterrupted capacity to discharge the duties which their various situations in life may demand They must, however, bear in mind that a return to old practices will unquestionably, sooner or later cause a return of their complaints. We can assure them, however, that they will, in a short time, become reconciled to the rational mode of life recommended, and that they will not only afterwards pursue it from choice, but advise others to adopt it.

Tea and coffee must be taken in great moderation. In place of them, for breakfast, the articles noted in page 193, or a small portion of some of the varieties of animal food mentioned at page 197, may be substituted; with the addition of sound bottled claret, if the acid of this wine should be found not to disagree with the stomach. The claret must be diluted with water. In the evening a cup of souchong may be taken with safety; but it would be better to omit it, and to take a few oysters, or a soft boiled egg or two, an hour at least before bed time. Regular suppers must be wholly laid aside.

Invalids should avoid dinner and supper parties, for they thereby escape the inducement to transgress

the rules prescribed for their cure, the importunities and remarks upon their forbearance from the thoughtless and inconsiderate, and the reflections which may prove mortifying to them from seeing others, either in high health, or who set bad health at defiance, eating freely of what they call the good things before them

DRINKS.

Let every one afflicted with the Sick-headach be assured of the fact, of the superiority of water as a diluent, and throw aside wine, spirit, and malt liquors. In the winter, if the coldness of the water should prove disagreeable, or give pain when taken, these effects may be prevented by pouring boiling water on toasted bread or biscuit, and permitting the temperature of the water to descend to a degree that may be found pleasant. It may then be taken at meals, or at any other time in the course of the day when required. This toast infusion is far preferable, and more palatable, than that made by infusing a hot toast in cold water. Those who are not blessed with water naturally pure, should, if possible, use distilled water; the benefit of which the late and experienced Dr Heberden, of London, thought might be as great in many chronic complaints of the stomach and bowels, as the most famous mineral waters are in other disorders. Dr Lamb says he was cured of a Sick-headach by the use of distilled water, and that he was informed of the same complaint having been relieved in others by using it, particularly by a gentleman more than sixty years of age. The same author relates several cases of the decided good effects of distilled water in various chronic complaints, as cancer, gout, obstinate cutaneous eruptions, &c. Dr Adair also adds several facts of its medicinal powers. If distilled water be used, the first gallon that comes over should be thrown away For

want of it, the water may be boiled; and, in both cases, it should be put into an upright churn, without a cover, and agitated for some time, to impregnate it with the air which it loses by either operation and, for want of which, it has a vapid and peculiar taste. In places where the water is obviously impure, or bad tasted, it ought to be passed through a filtering stone, or, which is better, a filtering apparatus The water drinker will find, after a short trial, that he will never want the luxury of an appetite; that the sensibility of the organs of taste is increased, and that he will thereby add to the pleasure of eating.

But it must be remembered, that a cardinal point in the cure of all diseases of debility in the stomach, or of derangements in its functions, is to take no more drink at meals than is sufficient to promote the solution of the food in its natural solvents, and its passage out of the stomach. Half a pint, or a little more, is enough.

The operation of the good effects of the tender modes of cooking, in France, is prevented by the large draughts taken by the people of that country at dinner: and indigestion is known to be a prevailing disease among them. During the day thirst must be assuaged, either by plain water, or water impregnated with carbonic acid, the method of doing which is now generally known. Where acidity prevails in the stomach, ten or fifteen grains of the supercarbonates of soda or of potash, should be added to each glass without syrup. Half a tumbler is enough for one draught. More would cause uneasy distention of the stomach. This drink, taken daily, has, in one case, suspended a severe Sick-headach for several months. The alkali may be dissolved in a wine-glass of milk, and pure water taken after it, if aerated water cannot be procured.

The tonic effects of malt liquors on the human body, when not contra-indicated by some circumstance, would naturally lead those not acquainted with them, to expect that they would be highly be

neficial in the present complaint: but they are injurious, from containing more or less free acid, and must, therefore, be avoided.

Attention to the state of the bowels is of essential importance in this disease. Costiveness not only disposes to its origination, but increases the disposition to frequent attacks of it. The bowels must, therefore, be constantly kept open by the use of occasional doses of medicine, when necessity may require it. The Congress Spring water, at Saratoga, is the best laxative for the purpose; for it is the peculiar property of this admirable water not to weaken like other purgatives. Three tumblers full, taken early in the morning, are enough at a time. When drank on the spot, a tumbler of the Flatrock water, which is a pure chalybeate, may be taken in the afternoon. Where the Congress water cannot be procured, rhubarb may be substituted, and, to prevent it giving pain, three or four drops of the essence of peppermint may be added to the dose; or about thirty grains of the root may be cut up and chewed; the effects, when thus used, will be more slow and natural than when a full dose in powder is taken. If there be an aversion to this excellent medicine, castor-oil may be substituted. Spinage, when in season, simply prepared, and slightly seasoned, should be eaten at dinner, when constipation comes on. Where acidity prevails in the stomach, half a drachm to a drachm of calcined magnesia should be taken in milk.

It would certainly conduce to the promotion of the vigour of the body, or, at least, prevent the increase of muscular relaxation, if enervating feather beds were laid aside, and mattrasses of hair, or southern moss, substituted. In summer, a feather bed is an absurdity. Even in winter, a short time will reconcile the most delicate to mattrasses, when they will invariably be preferred to feather beds. In cold weather, a blanket may be put between the sheet and the mattrass.

EXERCISE.

Exercise is an essential remedy in the cure of the Sick-headach. But under the word *exercise*, so much is comprehended, that it is necessary to enter into detail respecting it. No species of bodily motion, no variety of the species of exercise commonly used, will have the desired effect, unless under proper regulations, and in conjunction with a due observance of the whole system of conduct laid down in the present set of directions. It is only one of the means prescribed, and may be defeated by, or even interfere with the rest that are essential, by being improperly used, or by inattention to other directions. The exercise must be in the open air, and occasionally before breakfast. If taken in the house, it fatigues without effecting any change in the system. Riding on horseback, on account of the agitation of the internal viscera, is, of all species of exercise, the most proper; and should be constantly taken, every morning, when the weather will permit. A long journey is much preferable to daily short rides at home, on account of the exhilarating and medicinal effects of the continued change of scene and of air on the system. Occasional stops should be made, and exercise on foot taken. Exercise, however, alone, will not cure or prevent the disease, which is known to affect persons of the most active dispositions, and possessing considerable muscular vigour.

If it be not convenient to take a long journey, daily rides at home, or walking exercise, may be substituted. Some business, or object of investigation, ought always to be had in view when exercise is taken, as a visit to a friend, the local topography or geology, mineralogy or botany of the country, &c. &c. To this must be added gentle frictions from right to left, on the side, and region of the stomach and bowels, with the flesh-brush or flannel, for fifteen

minutes, every morning before rising, and after meals The benefit of this remedy, though slow, is *certain*

CHANGE OF AIR.

A powerful remedy, in the cure of this disease, is a change of air. The influence of the air of a place, in the production of diseases, is evident from a variety of facts; and the prevention and cure of them obtained by a temporary change of air, or permanent removal of residence, is no less indisputable.

A striking effect of the change of air in the Sick-headach, occurred in a citizen of Philadelphia, who, from his sixteenth year, had been subject thereto, and in whom, until he had passed his fortieth year, it annually increased in force and frequency, so as to render his life miserable. A few years since he removed from the small and confined house, in which he had lived for many years, to one of larger size, having a spacious garden; and the consequence was, that, in the course of two years his headach became much less frequent, and his general health improved.

OTHER CAUTIONS.

Diseased teeth frequently excite this disease. In the commencement of a cure, therefore, all stumps that give occasional pain, and all hollow teeth not to be rendered useful by plugging, should be extracted Slight decays in other teeth must be cut out, and the cavities plugged.

Early hours are essential to the cure of the complaint. This refers to bed-time and rising, and the invalid should make it a point never to indulge in the unsound sleep that is apt to follow lying in bed in the morning, after being awake some time. The languor induced by a long continued recumbent pos

ture of the body, promotes that torpor of the digestive organs which contributes to the origination of the disease, and its continuance. A headach almost invariably ensues from such practice, with the loss of that refreshing sensation arising from the sound repose of the preceding night.

Cold feet frequently excite the disease. Care must be taken, therefore, to guard the feet from cold and wet, by cork-soled or Indian rubber overshoes, which are now made with great neatness, and by wearing warm stockings. Flannel socks should also be worn in winter when going to bed, and may be pulled off in the course of the night, when the warmth of the body has become equally diffused.

No one subject to Sick-headach should sleep with a fire in the chamber; for the diminution of temperature that often takes place in the course of the night, from the fire going out, or from a change in the weather, disposes the system to catarrh, and every such indisposition retards the cure of the disease. This remark does not apply to Canada, or the eastern states, where the severity of the cold renders the preservation of an uniform temperature in the whole house, during winter, an object of unceasing attention; nor to those who have the means of keeping up a regular heat in their chambers during the night. The thermometer should not be permitted to rise above sixty degrees. The proper practice is, to have a fire kindled, early in the morning, in a sheet-iron stove, which heats quickly, or to dress in an adjoining room, where there is a fire. Bed-curtains should not be used.

If the system feel exhausted by the duties of the morning, and require repose after dinner, to recover its energies, sleep for half an hour may be indulged in, to great advantage, with the body in an erect

position, or nearly so. A recumbent posture should never be adopted, if a cure be hoped for. The practice, while in perfect health, of regularly going to bed after dinner, for an hour or more, is productive of the most enervating effects, and should never be adopted, by young persons who are desirous to preserve or acquire firm muscles, good complexions, or strong nerves.

No one who values the preservation of a vigorous state of the surface, or wishes to prevent the gradual diminution of its tone, should ever permit a warming pan to enter the bed. In cases of natural delicacy of constitution, a flannel gown may be used to sleep in. One of the surest methods to invigorate the skin, and to prevent a disposition to take cold, is to rub some part of the body every morning, on rising, with a *coarse* towel dipped in cold water. The refreshing sensation arising from this practice is so great, that no one who tries it will deprive himself of the gratification. The well known sympathy between the surface and the stomach, authorises a belief that the practice would prove a powerful auxiliary to the system recommended for the cure of the sick-headach.

The passions of the mind must be kept under with especial care. Every mental irritation will add strength to the disease, and retard the wholesome operation of the remedies prescribed for its cure. The common effect of giving way to fretting, peevishness, or resentment, is an attack of the complaint A determination should be made to overcome this disposition. One effect of the system of diet recommended for the cure of the complaint, is a happy revolution in the temper, from great irritability to philosophic endurance of the little evils of life, and the power of self-command. The mind and the corporeal functions are intimately connected and mutually act and react on each other. Every source of domestic irritation should, if possible, be avoided. The troubles of life affect the digestive organs very sen

sibly, and operate with increased force when they are joined to improper food, or other remote causes of the disease.

TREATMENT OF AN ATTACK OF THE COMPLAINT.

If the disease announce its approach, which it sometimes does, by certain premonitory signs, as heaviness of the eyes, or confusion of the head, no time ought to be lost in arresting its progress. If the prevalence of an acid or of bile in the stomach be known, attention must be paid to their removal. If the first be present, twenty or thirty grains of calcined magnesia, or ten or fifteen grains of supercarbonate of soda or of potash, may be taken in a tumbler of artificial mineral water; and if this cannot be procured, they may be mixed with new milk or gum-arabic water: to both, the addition of orgeat, syrup of sugar, or of ginger, all render the draught more agreeable,

Bile is to be removed by a brisk purge of compound podophyllin pills; after which, if relief be not obtained, fifteen, twenty, or thirty drops of laudanum may be taken in half a wine-glassful of water, with the addition of a tea-spoonful of compound spirit of lavender, and sleep encouraged by retiring to bed in a dark room. If, on awaking, the pain in the head should not have disappeared, its removal will be promoted by the person remaining in bed, and repeating the dose. It is better, however, to take enough at first, to insure a sound sleep for several hours; after which it commonly happens that no symptom of the disease remains, except a slight confusion of the head, arising from the effects of the laudanum: but this will disappear in a short time, by taking a cup of clear strong coffee, without sugar or cream.

In this way relief from the present symptoms will

be certain; and by repeating the foregoing process a few times when the attack returns, it will be shortened, and the habit of the disease be broken and by due care to avoid the causes that excite it and the use of the medicines, diet and regimen recommended, its return may be prevented.

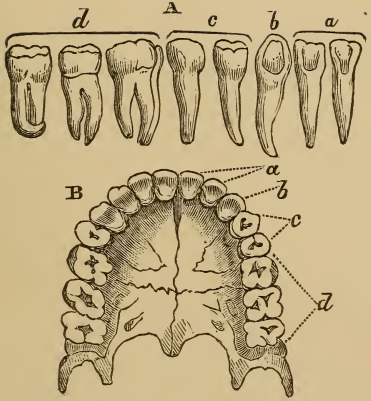
THE TEETH.

It is intended in the following treatise,

1. To give, in as few words as possible, a clear description of the structure and formation of the Teeth; and to bring to view those circumstances connected with their growth, with which it is important for every individual to be acquainted.

2. To give a brief sketch of the most common diseases to which the Teeth are liable; together with such directions, relative to their treatment and preservation, as shall enable the reader to take the necessary care of his own Teeth; and, if a parent, to pay proper attention to the Teeth of his children. The reader is aware that the diseases of children are not embraced in the plan of this Compendium of Domestic Medicine; but the author, in treating of the Teeth, has found it impossible to avoid some notice of the subject—unless at the hazard of omitting much that is interesting and instructive to those to whom this work is professedly addressed.

3. To guard against the injurious practice of ignorant operators; and to remove some of those popular prejudices which prevent many from adopting the only treatment calculated to diminish the liability to disease in these useful and important organs.



A, the separate human teeth as they occur in the half jaw of the adult. B, the human teeth *in situ* in the upper jaw. *a*, *a*, incisors. *b*, *b*, canine. *c*, *c*, premolars. *d*, *d*, true molars.

STRUCTURE, NUMBER, FORM AND ARTICULATION OF THE TEETH.

In order to render the description of the Teeth, and of their diseases, as clear and comprehensive as possible, anatomists have considered a Tooth as divided into three parts or sections; first, the body or crown; second, the neck: and third, the root or fang.

The whole of that part of a Tooth which is generally exposed to view, when the gums are in a healthy state, is called the crown. The part which is immediately embraced by the gums, and to which they are united, is called the neck. The third section, or fang, is all that part which is found buried in the socket, when the bony process, of which the socket is formed, is in a perfect state.

The hard or bony structure of the Teeth is described as consisting of two substances; one of a dense bony nature, much harder than that of any of the other bones, and of which are formed all the internal parts of the crowns, the whole of the necks, and also the fangs of the Teeth. The enamel, or external covering, is the other hard substance, which, however, forms only a part of the crown. It is of a peculiar nature, possessing a hardness and density exceeding that of any other substance in the whole body, and covers the crowns of all the teeth, but is seldom in any part more than a line in thickness. It is thickest, at those parts which are most exposed to use; and thinnest, at those nearest the gums.

The Teeth, like the other bones, are hollow, having a cavity in their crowns, corresponding, in form, to the external part of the tooth, and a canal in each fang, extending from this cavity, and terminating by a small opening in the point of the fang. These cavities, however, are not, as is commonly supposed, for the lodgement of marrow, as in the other bones, but to give place to blood vessels and nerves, on which

the Teeth depend for their nourishment and sensibility.

The dimensions of these cavities are found to vary according to the degree of perfection attained in the formation of the Teeth; being greatest in those which are very young, and becoming gradually smaller, till their formation is completed. In the Teeth of adults, they become still less, as the individual advances in years, so that in those of very aged persons these natural cavities are often found to be entirely closed, or filled by solid bone.

Of the two sets of Teeth with which the human jaws are successively furnished, the first are called the temporary, infant, or Milk-Teeth; and the second, the permanent or adult Teeth. There is most commonly a difference in the number which composes these two sets, the first containing twenty, and the second thirty-two. The number in the second set is often found to vary, being in some greater, and in others less: but this variation seldom occurs in the first set.

Both sets are divided into classes. In the first set there are, in each jaw,

1. Four front Teeth (*Incisores*), two on each side.
2. Two eye Teeth, or canine Teeth (*Cuspidati*), one on each side.
3. Four grinders, or double Teeth (*Molares*), two on each side.

The front, and canine Teeth are succeeded, in the permanent set, by Teeth of the same denomination; but the grinders of the first set are followed in the second, by

Four double-pointed Teeth, or small grinders (*Bicuspides*).

In addition to which there are in this set, a fourth class, viz.

Six large grinders, or double Teeth (*Molares*), three on each side; the last of which, on each side, is called wisdom-tooth.

The Teeth of both sets, or those of the same class

in both, bear a strong resemblance to each other; so that, in many instances, at the period of shedding, the teeth of one set have been mistaken and extracted for those of the other.

The roots of all the front and canine teeth, in both sets, are single, and generally straight and tapering; and those in the upper jaw are commonly the longest The fangs of the small grinders (*bicuspides*) are flatted and thin, often a little crooked and tapering, and generally some of them forked at their extremities. All the double Teeth (*molares*) in both sets have, in the under jaw, two fangs, and in the upper one, three; two of these being fixed towards the outer edge of the jaw, and the other towards the roof of the mouth or palate. In many instances, however, the grinders of the upper jaw have four, or even five fangs; and those of the under jaw, three. And on the contrary, some of these Teeth, which are generally designed by nature to have two or three fangs, are found with but one.

The Teeth are connected with the jaws by the means of sockets, which are formed to receive and fit each particular fang, and by intermediate membranes, which serve at once for linings to the sockets, and coverings to the fangs; so that the roots of the Teeth are not immediately articulated or joined to the bony sockets, but are united by these membranes.

The sockets which receive the Teeth are formed of thin plates or processes of soft spongy bone, which, while they embrace the fangs of the Teeth, serve as a support to the gums. These plates of bone, which are called *alveolar processes*, are produced, and increased, with the formation and advancement of the Teeth; and there is such a mutual dependence of the teeth and these processes on each other, that a Tooth is no sooner removed, than a wasting of the process commences, and all traces of a socket soon disappear. And on the contrary, when this dissolution and absorption of the processes are first effected, as is often the case in consequence of disease, the Teeth imme

diately become loose and painful, and the patient is almost constantly afflicted till they are wholly removed. Thus it appears, that where there are no Teeth, there can be no alveolar processes, and where the alveolar processes are destroyed, the Teeth can no longer be preserved.

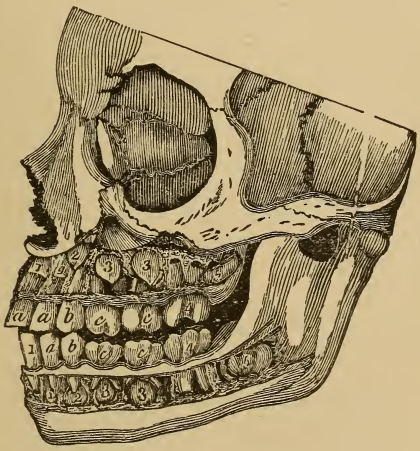
These bony sides of the sockets are covered, like the rest of the jaw, by a thick strong membrane, called *periosteum*, which contributes greatly to support and strengthen them. The gums are next spread over this periosteal covering; and these again are invested by a very delicate membrane, which is continued over the lips, tongue and throat, and is indeed the immediate lining of the mouth. All these soft parts, which cover the sockets of the Teeth, are so intimately united by the intermixture of their fibres and vessels, that they cannot be distinctly separated by the knife, and appear, on dissection, like one uniform and homogeneous substance.

These parts, and the membranes which connect the teeth with their sockets, serve for the transmission of innumerable small vessels, which go to nourish the jaws and teeth. Vessels and nerves of considerable size enter the jaws, and pass in channels at the deepest part of the sockets, where they supply the fangs of all the teeth with small branches; and in this way the cavities of the teeth are furnished with arteries, veins, and nerves, that enter at the fangs by the small openings in them, which have been mentioned above.

In order to illustrate the descriptions which have been or may be given, the following print has been drawn and engraved. It consists of a representation of the bones of the face, in which the *first* and *second* sets of teeth are so exposed as to show their relative situation in both jaws, as found in a child of six or seven years of age.

The preparation from which the drawing was taken had all the flesh removed, and the outer plate of the alveolar processes sawed and cut away in

such a manner as to bring to view the fangs of the temporary teeth, and the crowns of the permanent set which were beneath them.



Explanation.

a. a. a. Three *front* Teeth of the *first* set, the other had been shed.

b b. The *canine* or *eye* Teeth of the *first* set.

c. c. c. c. The *double* Teeth or *grinders* of the *first* set, their fangs being partly absorbed.

1. 1. 1. 1. The *crowns* of the *front* Teeth of the *permanent* set, one of which, in the under jaw, is fully advanced, and is in the place of a temporary tooth which has been shed.

2. 2. The *crowns* of the *permanent, canine* or *eye* Teeth.

3. 3. 3. 3. The *crowns* of the *double-pointed* Teeth or *small grinders* of the *permanent* set.

4. 4. The first *large grinder* or *double* tooth of the *permanent* set in each jaw, the fangs of which are not fully formed. It is owing to the early appearance of these Teeth beyond the temporary grinders that many persons are deceived, and suppose they have never shed all their double Teeth.

5. 5. The crown of the second large grinder, or double tooth of the *permanent* set, in each jaw, still deep in its socket, the formation of its fangs not having commenced.

The subject was too young to allow of exhibiting the rudiments of the wisdom Teeth, or third large grinders. These are formed still farther back than the others.

FORMATION OF THE TEETH.

1. *Formation of the Milk Teeth.*

When the rudiments of the Teeth are first discoverable, they are small gelatinous or pulpy bodies, enveloped in thin membranous sacks, and arranged in a sort of excavation or groove in the jaw, which at this time is but imperfectly formed. Bony fibres then shoot across this groove, and separate it into distinct cells, each of which contains its proper pulp, or embryo tooth, invested in its membrane. At the time of birth, the formation of the temporary Teeth has generally so far advanced, that the pulps have attained their full size, and ossification has extended over their surfaces in such a manner as to form complete bony shells of the size and figure of the crowns of the Teeth; and the pulp of the first permanent grinder, on each side of both jaws, has acquired a considerable magnitude. After this the

pulps begin to elongate, in order to form the fangs, and the process of ossification is continued for the same purpose till they are completed.

While this process is going on at the roots, another is progressing at the crowns, by which an earthy substance is deposited on their surfaces, and gradually formed into that highly polished and beautiful covering, called the enamel.

And while these changes are taking place, the Teeth are gradually rising, the alveolar processes which are to support them are increasing in height, and the membranous envelopes are dissolved and taken up by innumerable absorbing vessels, and carried into the mass of blood, having effected the purpose for which they were formed. After this, the gums, or those parts of them which are situated immediately over the Teeth, are also absorbed, and the advancing Teeth are allowed to rise into view.

The age at which the Teeth begin to appear, is usually that from the sixth to the eighth month; sometimes earlier, and often much later. They generally advance in pairs, and in the following order:

1. The two central front Teeth of the under jaw which are soon followed by the corresponding ones in the upper jaw.

2. The two next front Teeth, or lateral *incisores* of the under jaw, which are succeeded by the corresponding upper ones.

3. The smallest double Teeth, first in the under, and then in the upper jaw.

4. The under canine Teeth, which are followed by the upper ones, called the eye Teeth.

5. The largest double Teeth. These also appear in the same order, with respect to the jaws, first in the under, and then in the upper one. They often pass through the gums at about the same time that the canine Teeth do, and sometimes before them. At other times, the canine Teeth precede even the smaller grinders in their advancement.

Though this is the order in which these Teeth

generally appear, various circumstances produce the greatest irregularity in this process. The time which is occupied for their advancement varies much, though it is usually a period of about eighteen months, or two years.

2. *Formation of the Permanent Teeth.*

The formation of the second set of Teeth, is one of the most curious and interesting processes which is effected in the development of any part of the human frame.

While the temporary Teeth are forming, and soon after ossification has commenced on their pulps, the rudiments of the permanent set may be discovered. They are connected with the membranous coverings of the temporary Teeth, and are contained in the same sockets with them. When the first set advance to their destined situation, this connexion is not destroyed, but the permanent Teeth are left deeper in the jaw, and bony partitions are formed between the sockets of the two sets. At a certain period after the crowns of the permanent Teeth are formed, the partitions of bone, which separate them from the sockets of the other set, are absorbed, and they gradually rise and occupy the space thus formed. To give place to these Teeth, the fangs of the temporary set are then absorbed; and in this way their crowns are finally deprived of all support, except a slight attachment to the gums, and are often removed by the ordinary pressure of the tongue against them.

SHEDDING THE TEETH.

The provision of nature for exchanging the two sets of Teeth, is as much calculated to excite our admiration, as the process by which they are formed. And there is no period at which the Teeth of children require more, if so much, attention and care.

If the fangs of the temporary Teeth be slowly absorbed, the permanent Teeth will generally come forward so as to appear as soon as the corresponding ones of the preceding set are shed; and in a majority of cases, without doubt, the whole process is performed by nature with such perfect regularity, that the interference of art would be at best but useless. In some cases, it would be detrimental to the forming and rising Teeth; and in others, injudicious and cruel, from the unnecessary infliction of pain. Yet there are so many cases in which irregularity and deformity, with their usual consequences of disease and suffering, are produced, by the manner in which the permanent Teeth are allowed to advance, that it is highly important that all parents should be acquainted with the situation of the two sets of Teeth in relation to each other, and with the changes which take place within the period of the second dentition. See plate, ante page 217. For it is only by their knowledge of these, that they can be enabled to judge correctly when it is proper for them to interfere in removing the temporary teeth, and when it may be expedient or necessary to apply for the advice and aid of an experienced and judicious dentist, to prevent the evils which often result from neglect or ignorance.

If the permanent Teeth are discovered to be emerging from the jaw in such a manner that their position will be improper and injurious, or if they are inclined to any irregularity arising from the disproportionate growth of the Teeth and jaws, much may be done to prevent it by a seasonable removal of the temporary Teeth; but this should not be done by any who are ignorant of their liability to do mischief by taking the wrong Teeth, or by extracting them too early, or by removing loose Teeth only, when there may be the greatest necessity for extracting such as are perfectly tight, and in which the process of absorption has hardly commenced.

It is a very common opinion that the first Teeth

have no roots, and that they may therefore be extracted without injury, at any period. But nothing can be more incorrect; for the Teeth of a child have longer and larger roots, in proportion to the size of their crowns, than the Teeth of an adult; and their connexion with the forming Teeth of the second set, at an early period, is such, that if they be extracted too soon, the violence done to the tender Teeth beneath them may be so great as to prevent their formation from being completed, and they may never appear.

Another prevailing opinion is, that the temporary Teeth should always be extracted as soon as they are discovered to be loose; and though this may generally be done without any bad effects, it is not so necessary as has been supposed, and in most instances is a useless interference; and exposes children to suffer both fear and pain, which might as well be avoided; for the looseness of these Teeth, as has already been shown, is occasioned by the absorption of their fangs; and there can be no surer evidence than this, that nature is doing her own work in due season, and needs not the aid of art to expedite it, or render it more perfect.

It is not by removing Teeth which are loose, but those which are firm, and have their fangs nearly or quite entire, that any advantage is obtained which will favour the regular advancement of the permanent set. The best advice, therefore, that can be given on this subject, to parents, and those who have the care of children, is to examine the Teeth frequently, about the usual period of shedding (the sixth or seventh year); and if any of the second set begin to make their appearance, or there is an evident swelling of the gums at the part where any of them are expected to appear, a sufficient number of the first Teeth should be extracted to allow a sufficient degree of room for the second, which are coming forward.

From what has been stated, however, it will rea-

dily be seen, that when the temporary Teeth have become very loose and troublesome, they may be extracted indiscriminately, and by any person; but when they remain firm, and the Teeth of the second set are coming forward in such a manner as to lap over each other, or appear in a double row, it is of the utmost importance to remove them, whether the process of absorption has commenced at their fangs or not, in order to give room, and restore regularity to the rising Teeth.

It should be remembered, with regard to the examination of the jaws and Teeth at the time of shedding, that all the Teeth which are to succeed the first set, if they come forward too soon, or before the temporary Teeth become loose, will be discovered behind them, or on the inner side of the jaw, excepting the eye Teeth, or *cuspidati*, which will be found advancing on the outer side of the jaw. It sometimes happens, also, that when the temporary grinders have been very early removed, the *bicuspides*, or small grinders, of the second set, make their appearance on the outer part of the jaw, next the cheek. This is most common with the upper ones.

All cases of great irregularity (which may generally be discovered before the teeth have risen far above the gums, and often as soon as they appear) should without delay be placed under the care of an experienced dentist; for the limited knowledge which parents usually obtain, from the few cases which come under their observation, is not sufficient to enable them to judge what is proper to be done, with that degree of correctness which the nature of the subject requires.

THE FIRST DENTITION.

The age at which the first Teeth begin to appear, varies very much in different children. This is caused by various constitutional peculiarities; some-

times it depends on the general vigour of the system when there is no predisposition to disease of any kind. It may likewise depend on the influence of various morbid principles which have been inherited from the parent, or on that of diseases produced by various external causes. Children of the most robust constitutions do not always begin to cut their teeth earlier, or get through this process in a shorter time, than many others that are of a more sickly and feeble habit; yet the former are much less liable than the latter to suffer from the pains and diseases to which children are exposed during the period of dentition.

The common expression of *cutting the teeth*, has arisen from an opinion, that the growing teeth make a passage for themselves through the gums by laceration; which certainly is not the case. As the teeth rise, a waste or absorption of the gums takes place, in order to let them pass through. This is often effected so easily as not to occasion any symptoms of pain or uneasiness. The absorption of the gums, to make way for the teeth, is as certain an effect of nature as the growth of the Teeth. In many cases, however, the rapid advancement of the Teeth, and the changes which must necessarily take place to produce it, produce also much disturbance about the jaws, and in the system generally. The gums appear swollen and inflamed, there is an increased flow of saliva, the infant is restless, cries, and frequently puts its hands to its mouth. From the effects of local inflammation and nervous sympathy, the whole body may become dangerously affected; in such cases the most sudden and happy effects have been produced by lancing the gums. This operation is a very simple, but not an unimportant one, as will be seen in our remarks (subsequently) on the mode of performing the operation. It is often attended with the most unexampled benefit to the child, and should never be neglected when required.

Whatever contributes to promote the healthful operations of nature, will make Teething easy; such

as frequent bathing in warm or cold water, according to circumstances, friction of the body and limbs, good air, exercise, and wholesome food; and above all, a cool and open habit of body. The gums should be rubbed with the finger, and the child should be allowed the use of its own fingers in its mouth. The idea that a child's sucking its fingers will prevent their growth, is a prejudice without foundation in truth.

The old and erroneous opinion, that the Teeth, as they grow, cut their way mechanically through the gums, first suggested the idea of assisting them in their protrusion, by the friction and pressure of hard substances; and hence arose the cruel and hazardous practice of scratching the gums through with the finger nail, or with pieces of hard loaf sugar, a practice which has too often been the cause of severe local and general suffering, if not of death, from the inflammation, fever, and spasms, which it has contributed to excite. Hence also the use of the coral and other hard smooth substances given children to bite; which are most dangerous instruments put into the hands of children to destroy themselves; for as the Teeth rise, and become slightly elevated above the edges of their sockets, those hard substances press and bruise the gum between them and the sharp points, or edge of the tooth underneath: inflammation and its consequences undoubtedly follow; and in this way, we are fully persuaded, the lives of thousands of children are lost.

The second dentition, or protrusion of the permanent Teeth, is seldom the cause of any suffering, except when the last grinders, or *wisdom-teeth* as they are called, are passing through the gum, being at the same time situated farther back than usual, and in such a manner as to present their pointed surfaces towards the cheek; in which case, the motion of the jaw in mastication, occasions such a degree of pressure on the gums and surrounding parts, as to produce much irritation, often a considerable degree of in-

flammation about the jaw, and even ulceration. These circumstances sometimes render it necessary to extract these teeth, though in most cases they may be preserved, and the troublesome complaints removed by cutting away a small portion of the inflamed gum over the teeth, or by other timely and judicious treatment.

DISEASES ATTENDING DIFFICULT DENTITION.

In infancy, every part of the system is highly susceptible of morbid impressions, and one set of organs readily becomes diseased through sympathy with another.

Among the diseases to which children, while teething, are liable, are, general irritation, or fever of an inflammatory kind, eruptions on the skin, diarrhœa, dysentery, cholera, inflammatory affections of the lungs and throat, swelling of the glands about the throat and neck, spasmodic affections of the limbs, and often convulsions of the whole frame.

What has commonly been called the fever of teething children, makes its appearance several times in the course of the period occupied for cutting the teeth; often commencing very suddenly, and marked by a dulness and heaviness of the eyes, unusual heat of the skin, quickened respiration, coated tongue, loss of appetite, and restlessness.

When these cases occur, it will be proper for the parent or nurse to administer some mild emetic, or gentle cathartic medicine, and place the little patient for about ten minutes in a warm bath, as high as the waist. But if these do not give relief, and remove the principal symptoms of the complaint, no delay should be allowed in calling medical assistance. The doubtful aid of inexperience should no longer be trusted.

When there is an eruption, which has become in any degree troublesome, the parts should be carefully

washed once or twice a day with castile soap suds, or warm milk and water, and covered with hair powder, or dry wheat flour; or smeared with olive oil, and covered with lint. No medicated ointment applied with a view to dry up, or scatter the eruption, should be used, or can be used with safety, without previous medical advice.

The bowels of infants, while they are Teething, are not unfrequently affected in such a manner as to produce the most alarming consequences in a very short time. Sometimes, however, they remain in a diseased state for several weeks; the child at the same time continuing lively and playful, with a good appetite; so that the sympathetic affection of these parts appears to be but a salutary effort of nature, to relieve the system from other and more serious difficulties, or to prevent their occurrence.

The very common practice, both of mothers and nurses, of dosing infants that are suffering under diarrhœa or dysentery, with paregoric, anise, burnt brandy, and sugar, and various astringent preparations, cannot be too seriously condemned. It is a practice which but too often serves to drive to a fatal close, a disease which, if it had been treated by a skilful hand, or even left to the kind efforts of nature, might have been conducted to a happy termination.

Concerning most of the other diseases which have been enumerated, few parents possess a sufficient degree of knowledge of them, to be enabled to determine what is best to be done; and, indeed, the anxious concern which most parents feel for their suffering offspring, generally unfits them, more than any other circumstance, for a calm and deliberate exercise of their judgment.

Delay in giving the attention which is often required by children, when they begin to suffer from teething, is a fault of too common occurrence, and of too inexcusable a nature, to be passed wholly unnoticed. The various maladies which attend the age of infant dentition, should not be suffered to prey on

the constitution, while the too often fallacious hope is cherished, that all will be well when the child has finished cutting its teeth; for, changes are not unfrequently produced in the system, which effect a lasting injury, and prevent the enjoyment of perfect health through the remainder of life. It may be asked, does the cutting of the milk-teeth require the aid of the dentist? Certainly not; it is generally a benign operation; but there are cases in which maternal solicitude has need of counsel; and the physician as dentist, or the dentist who is a physician, in this case, will show what is requisite to be done.

In almost every complaint attending difficult dentition, the operation of dividing the gums with a lancet over the rising Teeth, is of very great importance, and cannot be too strongly recommended; for, in many instances, it prevents the necessity of employing any other remedy, and often exceeds all others in efficacy. In cases of great inflammation about the gums, attended with fever, the operation is often followed by the sudden cessation of pain, and the mitigation of every symptom of irritation; in diseases of the bowels, by the perfect removal of the most distressing symptoms, and a speedy return of the healthy action of the parts; and in spasms of the limbs, and general convulsions, by the immediate interruption of the paroxysms, and a prevention of their recurrence. Its salutary effects are so powerful and decisive, that in all painful cases of dentition marked by evident swelling and inflammation of the gums, it should be performed without delay.

The prejudices which still exist against the operation, greatly prevent the extension of its usefulness; but it is one which is perfectly simple and safe, when performed by any one acquainted with the anatomy of the infant jaw, and the relative situation of the two sets of Teeth. The accidents which have been known to follow it, are among the common fruits of ignorance and presumption It is so far from being

painful or cruel, as is by many supposed, that infants. which a moment before were writhing and crying with pain, are sometimes known to laugh in the face of the operator before he has finished the incision; so sudden, and so great, is the relief which they experience.

DISEASES OF THE TEETH.

The diseases to which the Teeth are subject, attack them in various ways, and present very different appearances. In some instances, owing to the peculiar nature of the disease, or the constitution of the Teeth, they are destroyed without causing any considerable degree of suffering, or giving rise to any disease of the surrounding parts; in others, not only the Teeth are affected in the most troublesome and painful manner, but the diseases originating in them, are extended to the gums, palate, tongue and other parts of the mouth, producing fungous and fleshy tumours about the gums and cheeks, deep-seated abscesses, and caries or rottenness of the bones.

The Teeth, owing to their particular nature and situation, are subject to some diseases which are peculiar to them, and to others which are of a character very similar to that of the diseases which affect other bones. They are also, like most of the other bones, liable to fracture, dislocation and other accidents. Hence it must be evident, that in some instances, they will require a peculiar treatment, while in others the same surgical principles must be adopted, which are observed in the treatment of diseases and accidents of the other bones.

Caries or Rottenness.

The first disease to be mentioned, and that which is by far the most common, is caries, or rottenness of the Teeth. This commences in different parts of the Teeth, and is produced by several causes. It sometimes commences in the internal part of the crown, and gradually extends till much of this portion of the tooth is destroyed. The enamel is rendered thin by the progress of the disease within, and finally breaks by a very slight pressure. In other cases, its first effects are discovered on the enamel, which is discoloured, and becomes of a black or brown appearance; its substance is decomposed, and in many cases it cleaves from the bony portion of the tooth, by which the progress of decay is for a long time arrested; but more frequently, when suitable means are not adopted to prevent it, it soon extends from the enamel to the softer and more sensibly organized parts of the tooth.

In all cases, black and uneven cavities are produced, which serve to give lodgement to particles of food; and these, mixing with the fluids of the mouth, readily undergo a putrefactive process, and hasten the destruction of the Teeth.

By the progress of caries, also, the principal nerves, which supply the natural cavity in the tooth, become exposed not only to sudden changes of temperature, but to pressure from mastication, to the irritating contact of the tooth-brush, tooth-pick and other substances; and hence, pain and inflammation are produced, and the extraction of the tooth very commonly becomes the only means of preventing continued suffering.

Causes of Caries.—This affection of the Teeth is the consequence either of internal constitutional causes, or of those which are external and adventitious, and very commonly of both. Caries of the Teeth and even that of a peculiar character has

been so often traced through whole families, from one generation to another; that this disease must be considered hereditary, as much as any to which the human system is liable. In numberless cases, caries appears to be the effect of some serious disease with which the individual had been afflicted while the Teeth were in the early stages of formation. With regard to the local or external causes, they are most commonly found to be collections of earthy and other foul substances, which have been suffered to form and collect about the Teeth, and also the use of injurious tooth-powders and washes.

Treatment of Caries.—Although some Teeth are so constituted as to possess but little durability, and after the destroying power of caries once begins to operate on them, they go on rapidly to decay, in spite of all the aid which science and skill can afford; still, there are comparatively but few instances in which seasonable and judicious treatment will not arrest the progress of disease; and even render Teeth serviceable for many years, which, if neglected, would soon be entirely destroyed.

In the treatment of carious Teeth, it is of the utmost service to remove, by means of suitable instruments, the whole of the decayed portion in all cases, leaving at the same time as much of the sound part of the tooth as possible. If this be not done, little, if any service is rendered by any operation; and the Teeth go on to decay in the same manner after it has been performed as before. The surface of the tooth, where the decayed part is removed, should be left perfectly smooth, and if excavated, only in such a degree, that by the proper use of the tooth-brush, the lodgement of particles of food and other substances may be wholly prevented.

Another mode of treating caries, and which most effectually prevents its increase, is that of filling the excavation, which has been formed by disease, with pure gold, or some other metallic substance. This operation, when properly performed, will generally

preserve the Teeth from ten to twenty, and some times even thirty years, in a sound and serviceable state; while at the same time it prevents all those unpleasant and painful occurrences to which a ca rious and hollow tooth is constantly exposed.

The author has witnessed the salutary effects of this practice, in cases where the Teeth had been filled with gold, for twenty and thirty years. In operations of his own, teeth have stood the test of twelve years without any apparent alteration; and cases are recorded, in which the gold has preserved teeth in a perfectly sound and useful state, for a period of forty years.

When by caries the natural cavity is laid open, and the principal nerves are exposed, the tooth often becomes too tender to bear the pressure occasioned by mastication, or the sudden changes of temperature, and it becomes painful from the slightest causes After the disease has proceeded thus far, the Teeth may often be saved by filling them with gold, the nerves which supply the natural cavity first being destroyed. This the patient may do gradually, by carefully cleansing the cavity of the tooth of every thing which may be lodged in it, and applying a little lint soaked in some essential oil, as that of cloves or cajeput, which, if renewed two or three times a day, will, in a short time, have the desired effect. The nerves of such teeth are also sometimes destroyed by the dentist, in a more expeditious manner, by the use of strong mineral acids, or by instruments designed for this purpose.

Although, from the time of the earliest writers on diseases of the Teeth, the operations of sawing and filing those which are carious have been recom mended and practised, they are seldom of service, are often injurious, and, in most instances, to say the best of them, are ineffectual and useless. The particular objections to them will be noticed in some subsequent remarks on these operations

Diseases of the Fangs of the Teeth.

The disease, which has just been described, is one which has its seat in the crown and neck of a tooth, its progress being almost invariably arrested when it reaches the fang. But there are other diseases which attack this part, and which, though they do not so commonly occur, are not less destructive in their effects than caries.

Cases of enlargement of the fangs, owing to an accumulation of bony matter on various parts of them, are not uncommon, by which, not merely a single tooth is sacrificed, but one after another is lost, till in some cases, the patient is deprived of the whole set, by this formidable and destructive disease. It commences with a dull pain in one side of the jaw which at times appears to be fixed in some particular tooth. Soon after the Teeth which have been most painful are found to be loose, and the gums and alveolar processes are gradually destroyed or absorbed, leaving the fangs without covering or support; the teeth are thus rendered useless, and too troublesome to be borne, and must be extracted.

A disease similar to one which affects the other bones, and which has been called dry gangrene sometimes fixes on The Teeth. It commences in the natural cavity of the tooth; the lining membrane and vessels connected with it are destroyed, and the crown of the tooth, before there is much pain, assumes a dark blue appearance. A degree of inflammation next commences in the articulating membrane which connects the fangs with their sockets the gums acquire a dark red hue, are soft, and easily made to bleed. Matter is then formed about the roots of the tooth, and is discharged by small openings produced in the gums by the disease; and in this way the connexion of the tooth with the socket and the gums is destroyed, and the loss of it becomes inevitable.

These diseases, with others of a similar nature, extend in some cases to the bones of the face, so that abscesses and caries of the jaw are often connected with them, particularly as consequences of neglect or improper treatment.

The causes of these diseases, though for the most part obscure, are sometimes to be traced to a connection with some constitutional affection, or to blows, falls and various accidents.

In the early stage of these diseases, or when they are first discovered by the patient, extraordinary care should be taken to brush and cleanse the Teeth and gums, which should be done two or three times daily. Benefit will also be found from the use of an astringent lotion, of tincture of Peruvian bark and rose water, in equal quantities, or a decoction of marsh rosemary, in the proportion of one ounce of the dried root to a pint of water. When these diseases have so far advanced, as to become serious and painful, the patient must not expect to combat them with advantage, unaided by the advice and particular direction of an experienced surgeon, o dentist. And it is of importance that those who may suffer from complaints of the above description, should be cautioned against confiding in the advice of ignorant persons—mere tooth-drawers, and quacks. The former will generally affirm that nothing is to be done but to extract the Teeth, while the latter will be ever ready to apply their *infallible nostrums* accompanied with a profusion of promises to *cure all complaints*, even those which they are sometimes pleased to call *cancers of the mouth.*

Toothach

Writers on the subject, have generally mentioned this complaint as a particular disease; whereas, a moment's reflection will show us that it is only a common symptom of disease. Pain in the Teeth or toothach, is an almost invariable attendant on

all the diseases which have been mentioned, and the mode of removing it varies with that of treating the different diseases of which it is a symptom. If it be induced by the exposure of the more sensible part of a tooth, as in case of caries, filling the cavity with gold, or the other methods of defending the nerve from the air, or destroying them, as mentioned above will be sufficient to remove it. If it arise from inflammation about the root of the tooth, the same means should be used to subdue it, as in other local inflammations; and hence, in such cases, we find that cold water, or vinegar, cold meal-poultices, or strong irritating tinctures to the face, and a full dose of Glauber or Rochelle salts, are the most effectual in removing the pain. The too common practice of holding hot stimulating substances in the mouth, serves but to prolong the suffering. A momentary relief only is obtained, while the tongue and cheeks are smarting with each renewal of the medicine, but no permanent ease is experienced, till, by long suffering, fasting and watching, the patient becomes exhausted, and the paroxysm terminates in sleep.

Very severe and almost unexampled suffering is sometimes caused by certain nervous pains to which the Teeth are liable, not only when they are carious, or otherwise diseased, but even when sound. These, however, are generally sympathetic, and may be traced to some change in the habit or circumstances of the system, particularly those to which the female constitution is liable, or to some disordered nerve, or other local difficulty.

Toothach from rheumatism, though rare, if the Teeth are all sound, is very apt to occur when any of them are diseased; and the pain is not then confined to the diseased Teeth only, but often extends to the sound ones, and even from the Teeth of one side of the jaw to those of the other.

Toothach is also a common attendant on a disordered state of the stomach and other digestive organs; and the suffering in these cases is generally

even more severe than when produced by other causes, and is much less likely to be removed by any application made to the face or teeth only.

When toothach is merely symptomatic of disease, or derangement in some other part or organ, it will most commonly yield to those remedies which are calculated to remove the original complaint. If, therefore, it be in consequence of nervous pains about the face, or ear, use some strong irritating tincture, as that of camphor, Cayenne pepper, or flies, or the volatile liniment, applied externally; giving at the same time a moderate dose of laudanum, and repeating it if required. If it be attendant on a sudden attack of rheumatism, it will often be wholly removed by a full dose of volatile tincture of guaiacum, a warm bath. If derangement of the ordinary functions of the stomach and bowels induce it, an emetic, or a dose of some active cathartic medicine will in general procure relief.

These internal remedies, however (as well as most others of a very active nature, which are applicable to the abovementioned cases), should, as much as possible, be administered under the direction of a physician, in order to guard against error, in judging of the nature of the case, and in the choice of medicines most suitable.

Tartar, or Scurvy of the Teeth.

This is a troublesome, and often a very destructive complaint, and one which does much injury to the Teeth, even before those who suffer from it are aware of any danger. It does not originate from any particular state of the teeth alone, or from a disordered state of the gums and alveolar processes, as many are led to suppose; but is owing to an accumulation of earthy matter deposited from the saliva. With some individuals, it collects much faster than with others; so that, whereas one will have his

teeth completely encrusted with it in a few weeks. if the proper means be not daily used to prevent it, another will pass a long life without any care of his teeth, and tartar will not collect on them at all; so much does its formation depend on the natural, or constitutional state of the fluids of the mouth.

The tartar is seen on some teeth of a black or greenish colour, and very hard; on others, brown or yellow, and not so firm in its consistency; but in all cases it is productive of incalculable injury to the Teeth, gums and alveolar processes. When it is first deposited on the Teeth, it is soft, and may be easily removed with a tooth-brush; but if suffered to remain, it soon acquires a stony hardness, and gradually increases in thickness about the necks of the Teeth; the gums become irritated and inflamed by it, the sockets are next destroyed, and the Teeth, being left without support, are often pushed out by the ordinary pressure of the tongue and lips.

Tartar will in some cases collect to so great a degree on the Teeth of children as to produce a separation of portions of the jaw; and not only bring away the temporary teeth, but destroy those of the second set, which are beneath them. From this, and what has been before stated concerning the bad effects of tartar on the Teeth, it will readily be perceived how important it is to arrest the progress of so mischievous a complaint, in its earliest stage.

With regard to the treatment of these cases, if the tartar has been suffered to become so hard as to require much force to remove it, the operation should be carefully performed, and without injuring the enamel, as is sometimes done, by the use of acids and files, practices which cannot be too severely censured. The Teeth should be perfectly cleared of this foreign matter by sharp, cutting instruments, of a suitable form to effect the object without wounding and lacerating the gums. For the purpose of preventing the tartar from collecting again (or indeed from forming in the first place), and for restoring the

gums to a healthy state, nothing more is requisite, generally, than the daily use of a stiff brush, and some suitable dentifrice (post page 245), or the astringent washes mentioned ante page 234.

Many persons are in the habit of suffering their teeth to go without any efforts of their own for keeping them in order, and apply at stated periods to a dentist, to have the tartar removed from them; and this they do, no doubt, from the persuasion that it is all that is requisite for preserving them. But it may be important to state, for the information of those who are thus deceived, that the repeated collections of tartar, and frequent operations, do an injury to the Teeth which is not to be repaired by any subsequent care. The gums and alveolar processes are driven from them, they are deprived prematurely of that defence and support which these parts are designed to give, and are often lost many years before they would be, were a due degree of care bestowed on them.

DISEASES OF THE ALVEOLAR PROCESSES.

The alveolar processes commonly share in the diseases which affect the fangs of the Teeth; but cases in which they are primarily diseased are very rare. A complaint which is most frequently met with in them, is a gradual decay, or wasting of the bony substance, attended with a certain degree of inflammation of the contiguous parts. A little pain, or uneasiness and swelling of the gums, are first experienced; the bone or process after this is very rapidly absorbed; the affected teeth become loose, and appear to be thrust forwards and out of their sockets, so that they are much longer than the rest.

These cases, and particularly such as extend to the sockets of many or all of the Teeth, appear often to be caused by, or dependent on, a rheumatic or gouty affection of the whole system In the early

stage of the disease the patient should take extraordinary care in brushing and cleaning The Teeth daily; and he may also use with advantage, the astringent washes recommended in the preceding chapter; by which, the progress of the disease will be much retarded, and the suffering greatly diminished.

Preternatural enlargements of the alveolar process, or bony tumours, are sometimes found to arise on the jaws. They may readily be distinguished from those of a different nature, by their being much harder, and immovably fixed to the bone. They are not to be dissipated by any application made to the part, or by any internal remedy; and all attempts to do it, are, at best, but useless, and for the most part hazardous. In these cases, as in all others, the interference of quacks cannot be too scrupulously avoided, and the advice of an experienced surgeon should be seasonably obtained. Tumours of this kind do indeed increase very slowly, and if seasonably removed, are seldom injurious in their consequences. The fatal effects which they have sometimes been known to produce, have been in consequence of deferring too long a safe and simple operation.

Caries of the alveolar process is a common occurrence, but it generally arises from some disease which has commenced in the Teeth, and from various accidents to which these processes are liable in common with other parts. The patient has little to do for himself in these cases; they for the most part require surgical aid, and to be treated according to general surgical principles

DISEASES OF THE GUMS.

Inflammation and Sponginess of the Gums.

This is the most common disease to which the gums are liable, and which, indiscriminately with that state of the Teeth which is produced by the accumulation of tartar, is often called *scurvy*. The effects of this disease are, a swelling of the gums, with a dark red, unhealthy appearance, great tenderness, and liability to bleed. In very bad cases the gums are surprisingly thickened, and rise nearly to the tops of the Teeth. If the gums are suffered to remain for a length of time under the effects of this disease, the sockets of the Teeth are destroyed by absorption and ulceration, and the Teeth themselves drop out.

The ordinary causes of the disease are, collections of tartar on the Teeth, long neglect of brushing the Teeth and gums, even when there is no tartar formed, the use of mercury, and a scorbutic state of the whole system.

In order to prevent the ravages which this disease soon makes, if neglected, the gums should be brushed two or three times a day with the astringent washes which have been mentioned above. Powders, containing Peruvian bark, are often recommended; in the worst cases, however, and particularly in those which have been caused by the use of mercury, which renders the gums very irritable, no powders should be used; but alternate mild and astringent lotions, such as warm water, or milk and water, followed by the application of a decoction of rosemary root, or hyson tea, the tincture of Peruvian bark, or a solution of alum, in the proportion of one drachm to a gill of water.

If the inflammation and swelling of the gums be produced by the accumulation of tartar, which is the

most usual cause, this substance should be imme diately removed.

Gum-Boils.

Small abscesses of the gums often appear over the roots of the Teeth, which are commonly called gum-boils. They do not, however, originate in the gum. but are produced by disease in parts beneath, most commonly by ulceration at the fang of a carious tooth. After matter is formed at this part, the inflammation is extended to the gum, and the process of ulceration is continued till the matter is discharged.

After gum-boils have been thus produced, they often re-appear from very trifling causes, till a permanent abscess is formed, from which matter is daily discharged. Although with some individuals these may remain for several months, or even years, without producing any serious consequences, particularly if the constitution be perfectly healthy; yet the injuries which sometimes result from them show, in a manner too painful and troublesome to be forgotten, that they deserve early and particular attention. It is important in all cases to open these abscesses with a lancet, to allow the matter to be discharged as soon as it is evidently formed; and when a permanent cure is not to be obtained, except by extracting diseased Teeth or stumps, this operation should be performed without delay.

The operations which are required in the treatment of these cases, if attended to in season, are most of them too slight to be feared, and all of them much less painful than the extraction of a bad tooth

Tumours of the Gums.

Preternatural enlargements of the gums are not uncommon. They proceed from various causes, but generally from diseased Teeth; and are seldom to be cured till these are extracted.

Tumours of the gums are either of a soft spongy texture, or of a more firm and fleshy nature, sometimes nearly of the consistence of cartilage. All of them expose the patient to other and more serious evils, by causing a disease of the jaw, more or less extensive. The hard, fleshy, or cartilaginous tumours are not so common as those of the opposite nature; but their consequences are much more to be dreaded, if they are not early extirpated. They are sometimes found to be connected with a pre-existing disease of the jaws and Teeth, and at others, arise without any discoverable cause. In all these cases the speedy removal of the tumour (by the use of caustics, the ligature, or the knife) is the only plan of treatment on which we can reasonably depend for success. In some instances, however, the laceration produced by extracting Teeth which were enveloped in such tumours, has proved an effectual remedy.

CLEANING THE TEETH.

Highly important as this operation is to every individual, there are too many who neglect it; and, simple as is the process, there are many who, from habit, prejudice, or want of correct information, fail of performing it in a proper manner.

As soon as the crowns of the first four permanent incisors, or front Teeth, have fully advanced through the gums, children should be provided with a suitable tooth-brush, and be taught the use of it. There are but few persons, whose Teeth do not require a considerable degree of care to keep them in a healthy and sound state, and more particularly to protect them from the rapid and injurious effects of caries, after they have become affected with this disease. For many, the daily use of the brush and cold water is all that is required to keep the Teeth in perfect order; but most commonly, to effect this purpose, the

use of dentifrice of some sort is found to be indispensable.

With regard to the use of a brush, a moderately stiff one should be employed; for a brush may be too soft to be of any service, or so hard as to irritate firm and healthy gums. The Teeth should be brushed both morning and evening, but more particularly in the morning, as the causes which favour the accumulation of tartar operate most powerfully during the hours of sleep. Brushing them once a day, however, if it be done faithfully, is preferable to many hasty and imperfect attempts to clean them. Merely to pass the brush a few times hastily over the teeth, is of little service; five minutes or more should be diligently spent in performing this operation. It is also a very useful practice, to brush the Teeth always after eating, particularly if they are very uneven, or affected with caries.

The idea that the enamel of the Teeth can be injured by brushing, is as false and ridiculous as it would be to suppose that the palms of the hands may be worn out by moderate labour. The brush should not only be passed from side to side of the mouth, on the outer surfaces of the Teeth, but on the inner parts of them, next the tongue and roof of the mouth; also upwards and downwards, from the gums of one jaw to those of the other When the Teeth have been seasonably attended to in the manner above directed, the necessity for using dentifrice or tooth-powder, is very much diminished, if not wholly superseded; and there will be no case in which the use of it will be required oftener than once or twice a week. It should be remembered that it is not by merely spreading the powder over the surfaces of the Teeth with the brush, and then rinsing it off, that it is to have its proper effect; but by faithfully rubbing it for several minutes on all parts of the Teeth which are exposed to the action of the brush, taking care afterwards to remove every particle of it by the use of the brush and water, because, if left to lodge

about the Teeth and gums, it aids the formation of tartar. The water may be used cold or warm, as can best be borne, but cold is preferable.

Care should be taken in providing tooth-powder that it do not contain any substance that will act either chemically or mechanically on the Teeth, to injure them. Emery, pumice stone, and various acids are not unfrequently detected in those dentifrices and washes for the Teeth and gums, which are advertised as *infallible in rendering the Teeth surprisingly white, dissolving and removing tartar, preventing decay, toothach, &c. &c.* These may improve the appearance of the Teeth for a day, but in many instances ruin them for ever.

Many persons, ignorant and unsuspicious of any evil consequences, are induced to use acids, sometimes concentrated lemon juice, but more generally diluted vitriol, because they give the Teeth at once a beautiful white appearance.

But few, however, have done this, without having to lament a most serious injury, or the total loss of their Teeth; for in a short time, they become of a dead chalky white, soon turn dark coloured, and begin to decay and crumble to pieces, leaving the fangs in their sockets, more generally exposed to pain and inflammation, than if the crowns had been destroyed by any other cause. These baneful effects of acids cannot be too strongly impressed on the mind of every one; for they are so often used by the unwary, even at the present day, that scarcely a week passes, in which the writer has not an opportunity of witnessing some new case of the evils sustained by the pernicious practice of cleaning the teeth with an acid lotion of dentifrice.

We present to our readers the following recipe for a tooth-powder, which we can conscientiously recommend, for keeping the Teeth clean and rendering them white. It is perfectly harmless; and few persons will find it necessary to use it oftener than three times a week Although a little used every morn-

ing will be found beneficial. Any one can have it manufactured by a druggist from the subjoined recipe:—

Powdered Orris Root, 4 ounces,
Prepared Chalk, 4 ounces,
Powdered Cinnamon, ½ ounce,
Bicarbonate of Soda, ½ drachm,
Oil of Rose, 2 drops.—Mix.

In order to cleanse and preserve *artificial* Teeth, the above directions should be carefully observed. It is necessary to add, however, that these Teeth require more frequent attention than natural ones, and that *they should always be cleaned with a soft brush, and the mouth be rinsed thoroughly at least three times a day, particularly after eating.* If they are well made and well set, they will bear this treatment; and will appear better and last longer in consequence of it.

OPERATIONS ON THE TEETH.

The remarks which I shall offer under this head are not made with a view to describe particularly the various operations which are required in the treatment of diseases of the Teeth, but rather to notice some circumstances connected with a few of the most common of them, which it is important should be more generally understood.

Extraction of the Temporary Teeth, when Diseased

The temporary, or first Teeth, become often very soon diseased, and require an operation, that of plugging, extraction, or the removal of tartar. The importance of the latter will be seen by adverting to the observations on scurvy, ante page 237. With regard to extracting the temporary Teeth, it should be remembered, that a child ought not to be deprived of them without due consideration. If at the

age of four or five years, the front, or even the canine Teeth, become carious, as they often do, they may be extracted; but much better it would be to have them properly filled, and if, at this early period, the double Teeth are found to be decayed and painful, it will be advisable to defer extracting them as long as is consistent with safety, and at the same time to employ all suitable means to allay the pain, and to have the Tooth or Teeth cleaned from the decay and filled with gold. If there be inflammation and swelling of the jaw and face produced, the removal of the affected teeth should be no longer delayed; as deep abscesses, which break externally through the cheek, are not unfrequently the consequence; and ulceration, when it takes place, and exists for any considerable time about these teeth, is known even to injure the permanent ones which are forming beneath them.

Lancing, or Cutting the Gums, at the time of Teething.

The salutary effects of this operation were noticed in the remarks on Diseases of Dentition (ante page 226); and they will be very generally perceived, when it is performed at a suitable time, and in a proper manner. It should never be done, excepting when there is evident swelling of the gums over the expected teeth, attended with undoubted signs of inflammation. These, however, should be ascertained by the surgeon, and not by the parents or nurses. Ineffectual and repeated operations will then be prevented; and it will only be requisite that the lancet should be used by some one familiar with the anatomy of the infant jaw, and with the relative situation of the two sets of Teeth at this period.

As this treatise may occasionally fall into the hands of physicians, it may not, perhaps, be wholly unimportant, that we should address to them, a few observations on the above mentioned operation.

Nothing, but an essential difference in performing

the operation, could have given rise to the very opposite opinions, which have been, and still are entertained by physicians with regard to its utility For, while many are fully convinced of its beneficial effects, some consider it as altogether useless, and others condemn it as injurious.

When it is considered advisable to cut the gums, it should be done with a common broad-edged gum-lancet, and the incision made immediately over the Teeth which are about to appear, but over no others. The gum should not merely be scarified, but cut entirely through, as also the investing or capsular membranes, till the lancet is felt to grate against the enamelled surface of the Tooth. Should the edge of the lancet be placed a little too far towards the inner part of the jaw, particularly in cutting for the front and canine Teeth, although we may divide the gum, and feel that the edge of the instrument is resisted by bone, it will probably be no other than the internal plate or transverse portions of the alveolar processes, and the objects of the operation will not be obtained. Some relief may be produced for a little while by the bleeding, but more frequently, the irritation of the gums will be increased. Besides, by making the incision in this manner, there is danger of dividing or injuring the membranous and vascular connexion between the first and second sets of Teeth, and thereby injuring or destroying the permanent ones entirely. Therefore, in order to prevent any injurious consequences, as well as to render the operation most serviceable, the incision should be made towards the external plate of the alveolar processes, so as to avoid the connecting membranes and sacks of the permanent teeth, particularly those of the *incisores* and *cuspidati*. Those of the *bicuspides* are more easily avoided, on account of the flat and broad surfaces of the temporary grinders.

Filing or Sawing the Teeth.

This operation is often performed with a view to remove the black and defective parts of carious teeth, and to separate them in such a manner that the excavation formed by the disease may be more exposed to the action of the tooth-brush; but in a majority of cases these purposes cannot be effected either by saws or files, the operation will therefore be unavailing, and the hopes of the patient disappointed.

The particular objections to the use of these instruments are:

1. That they do not remove the whole of the decayed parts of the Teeth; and it is a fact sufficiently evident to common observation, that the disease of caries is often communicated from one tooth to another by contact; and it is equally true that while any of the defective part of a tooth is suffered to remain, the liability of that tooth to decay is much greater than if this part were entirely removed.

2. That in all cases, the effect of sawing or filing is to deprive the Teeth, unnecessarily, of a great portion of their sound enamel, particularly when these operations are performed on the front teeth.

3. That the crowns of the Teeth being broader than their fangs, they often crowd together in such a manner, that, by the repeated operations of filing to keep them separated, one quarter and sometimes one third of each tooth is sacrificed, by the use of these improper instruments.

4. That separating *sound teeth* with the file or saw (or indeed with any other instrument) is a practice for which there can be no reasonable apology. The idea that they may be too close, and injure each other by lateral pressure, is altogether erroneous; and there are no just grounds for the belief, that, by this operation, they may be prevented from decaying.

To these objections we may add, that filing the Teeth always gives them a square and artificial appearance, and is one of the most disagreeable, and often painful, operations that is performed on them to many persons, even worse than that of extraction

As a substitute for files and saws, it is now recommended to use, in the operations for caries, small crooked knives, and other cutting instruments, which are liable to none of the above objections, and which enable the operator to effect the first, and also the most important objects in the treatment of this disease.

Filling Teeth with Gold or other Metals.

This operation, which is called plugging the Teeth, is performed for the purpose of rendering teeth which have begun to decay more lasting and serviceable; and when it is seasonably and properly performed, it is effectual in preserving them for many years, very commonly from ten to twenty, and in some cases even forty years.

There are often cases in which the diseased tooth will not bear the pressure which is required to fill it properly with gold; and then an amalgam of mercury and tin may be used in its stead. It is therefore best, in all cases where it is practicable, to use pure gold, which is too hard to be worn away by the ordinary process of mastication, and which will not be changed in its properties, or corroded, by any article of diet or medicine, excepting mercury, when its use is long continued.

Scaling the Teeth, or the Removal of Tartar.

Although every person may prevent the accumulation of tartar upon his teeth, by the means pointed out in the preceding pages, and may even remove it after it has acquired a very considerable degree of firmness; yet it is very often allowed to collect for so great a length of time, and to become so hard, that an operation under the hands of the dentist is the only remedy. The doubts that are by some entertained concerning the necessity or usefulness of removing the tartar, originate in an imperfect knowledge of the nature of the case, and from accounts of injurious treatment by ignorant operators. The effects which have followed the use of acids and files, to dissolve and remove this substance, have not failed to destroy the confidence of those who have ever submitted to such impositions.

The operation, if skilfully performed, is simple, and seldom painful; and will always be of service while the Teeth retain a sufficient degree of attachment to their sockets to make them worth preserving. It should be performed in the manner which has been directed at page 237; and the mode of treatment there prescribed for preventing the necessity of its repetition, will, if adopted, always be effectual.

Extracting Teeth.

There is probably no surgical operation which is not of a very serious or dangerous nature, that is so much dreaded as the extraction of teeth. Yet it is not always so much the fear of pain, provided the tooth be well extracted, as that of having it broken, the jaw fractured, or the instrument slip or break in the operation. These are accidents, however, which seldom happen in the practice of a skilful operator.

but are generally attributable to ignorance or carelessness. There are, indeed, circumstances sometimes connected with every kind of surgical operation which increase the difficulty of performing it, and which are not in all cases to be foreseen; yet they are extremely rare, and when they do occur, if science and skill be engaged, unfavourable results are often prevented.

The accidents above mentioned do indeed *too often* happen; and they must continue to occur, while the operation is entrusted to persons merely because they have strength enough to extract a tooth, and presumption enough to undertake it. Many are willing to believe a man sufficiently skilled in this operation, because he can make the instruments with which it is performed; but who would employ a person to remove a wen, amputate a finger, or open a vein, because he could manufacture a knife or a lancet?

An idea is erroneously entertained, by many, that the instruments which are in common use for extracting teeth are imperfect; but this is not the case On the contrary, the Key, the Forceps, the Hook, and the Graver, or what has been improperly called the *Punch*, though simple instruments, are all very perfect in their construction; and, in their present improved form, are calculated to separate a tooth from its socket with as much safety and dispatch, and with as little pain, as are consistent with the nature of the operation.

Much time has been expended, and great ingenuity exerted, to produce an instrument for extracting the double teeth in a *perpendicular* direction; but every contrivance of this sort has been calculated to operate by making pressure on one or more of the Teeth next that which is to be drawn. This circumstance has shown such instruments to be in a great degree useless, on account of the frequent unsoundness or looseness of the Teeth on which the required pressure must be made, or the defective state of the tooth

to be extracted. Besides, these instruments are unavoidably large, and sometimes so complicated that their application is inconvenient, and the operation necessarily slow and painful.

ARTIFICIAL TEETH.

The early loss of the natural teeth, which is often occasioned by disease, or by various accidents, and the pain and inconvenience which many individuals thereby experience, may be greatly diminished by the use of artificial teeth, provided they are well made and judiciously set.

Artificial teeth have been in use for many years, and have been formed of various animal and mineral substances, such as human and animal teeth, ivory, bone, &c. These have, however, given way in the present day or more modern times to the porcelain teeth, composed of mineral substances, the manufacture of which has been brought to such a high state of perfection that it requires no small degree of acuteness of observation to distinguish them from extremely natural teeth. And they may now be set so firmly as to be very useful, both in eating and speaking, as well as ornamental. Artificial teeth may be set from one to any number required. They may be secured by wooden pivots to the fangs or roots of decayed teeth which are left in the jaw, or to the remaining natural teeth by clasps around them, or be fastened to a plate of rubber, silver, gold, or platinum, which is held in the mouth by suction; and they may be set generally without giving any pain or uneasiness.

INDEX.

Abdomen, Dropsy of, 73
Abscess, 116
  Psoas, 117
Accidents, 122
  Compound, 143
Affection of Nerves of Face, 93
Ague Cake, 59
Amputation, 143
Aneurism, 111
Angina Pectoris, 94
Anodyne Clyster, 160
Apoplexy, 88
Artificial Teeth, 252
Asiatic Cholera, 163
Asthma, 47

Bladder, Inflammation of, 70
  Stone in the, 72
Brain, Compression of, 125
  Concussion of, 124
  Inflammation of, 37
Beds for Travellers, 19
Bleeding, 154
  from the Nose, 41
  Piles, 116
Bilious Fever, 30
Blind Piles, 116
Bites of Dogs, &c., 130
Blindness, Night, 40
Boils, 114
Bougies, 155
Blood, Spitting of, 49
  Vomiting of, 56
Blotched Face, 106
Bubo, 78
Burns, 152

Cancer, 87
  of Lip, 42
  of Penis, 78
  of Testicle, 80
  of Tongue, 43
Catarrh, 47
Chancre, 78
Cramp in the Stomach, 53
Cartilage in the Joints, 85
Carbuncle, 114
Carious Ulcer, 121
Catalepsy, 90
Catheters, 154
Charcoal Poultice, 168
Cramp, 91,
Chest, Dropsy of, 51
Cleaning the Teeth, 242
Chicken Pox, 100
Contents, 5
Colds, 47
Consumption, 49
Cholera Morbus, 60
Colic, 64
  Painter's, 65
Chronic Rheumatism, 83
Cholera, 163
Compression of Brain, 124
Concussion " " 125
Contusion, 123
Contused Wounds, 129
Compound Accidents, 143
Cow Pox, 100

Dance of St. Vitus, 95
Diarrhœa, 63
Diabetes, 73
Difficulty of Urine, 70
Dimness of Sight, 39
Diphtheria, 45
Diseases of Alveolar Processes, 238
  Gums, 240
Dislocations, 139
  Lower Jaw, 140
  Collar-bone, 140
  Shoulder, 140
  Elbow, 141
  Wrist, &c., 141
  Thigh, 142
  Knee-cap, 142
  Leg, 142
  Foot, 142
Division of Diseases, 23
Drowning, 143
Dropsy of the Abdomen, 73
  Chest, 51
  Knee-joint, 84
Dropsy of the Scrotum, 79
Dyspepsia, 174
Dysentery, 61

Ear, Inflammation of, 40
Eye, " " 38

Effervescing Mixture, 156
Emissions, Involuntary, 77
Encysted Tumours, 113
Emollient Clyster, 160
Enlargement of Uvula, 43
Enlarged Spleen, 59
  Spermatic Vein, 80
Epilepsy, 90
Erysipelas, 96
  Mercurial, 98
Extracting Teeth, 250

Fainting, 88
Flannel, 17
Face, Affection of Nerves of, 93
Fractures, Arm, 135
  Collar Bone, 135
  Foot, 138
  Fore-arm, 136
  Knee-cap, 137
  Lower Jaw, 134
  Leg, 138
  Nose, 134
  Ribs, 136
  Thigh, 137
  Wrist, 136
Felons, 115
Fever, 26
  and Ague, 28
  Bilious, 30
  Hectic, 36
  Intermittent, 28
  Low Nervous, 32
  Putrid, 34
  Remittent, 30
  Simple Inflammatory, 27
  Scarlet, 95
  Typhus, 32
Fleshy Tumours, 112
Fistula, 118
Fits, 90
Foreign Bodies in Throat, 151
Fungous Ulcers, 119

Ganglion, 113
Glands, Inflamed, 86
Gravel, 68
General Rule, 15
Gleet, 76
Goitre, 88
Gonorrhœa, 75
Gout, 81
Gum Boils, 241

Hartshorne's Decoction, 160
Headache, 38
  Sick, 191
Heartburn, 54
Heart, Palpitation of, 50
Hectic Fever, 36
Herpes, 103
Hiccough, 53
Hints to Travellers, 17
  Invalids, 21
Hip-joint Disease, 84

Introduction, 15
Indigestion, 54
Inflamed Glands, 86
  Ulcer, 119
Inflammatory Fever, 27
  Rheumatism, 82
  Sore Throat, 44
Inflammation of Brain, 37
  Bladder, 70
  Ear, 40
  Eye, 38
  Intestines, 59
  Kidneys, 68
  Liver, 56
  Stomach, 52
Influenza, 47
Intermittent Fever, 28
Impotency, 81
Incontinence of Urine, 72
Incised Wounds, 127
Indolent Ulcer, 120
Intestines, Inflammation of, 59
Involuntary Emissions, 77
Irreducible Ruptures, 109
Itch, 103

Jaundice, 57
Joints, Cartilage in, 85

Kidneys, Inflammation of, 68
King's Evil, 86
Knee-joint, Dropsy of, 84

Lancing the Gums, 246
Lip, Cancer of, 42
Liver, Inflammation of, 56
Locked-jaw, 92
Low Nervous Fever, 32

Measles, 99
Mercurial Disease, 79

Mercurial Erysipelas, 98
Ulcers of the Mouth, 42
Medicines for Travellers, 18
Mortification, 153
Mouth, Mercurial Ulcers of, 42

Nettle-rash, 105
Night-Blindness, 40
Node, 78
Nose, Bleeding from, 41

Painter's Colic, 65
Palpitation of Heart, 50
Palsy, 91
Preface, 3
Penis, Cancer of, 78
Pleurisy, 48
Prescriptions, 156
Piles, 115
Blind, 116
Bleeding, 116
Pimples on the Tongue, 42
Poisoning by Acids, 146
Alkalies, 147
Antimony, 148
Arsenic, 147
Bismuth, 148
Copper, 148
Lead, 150
Liver of Sulphur, 149
Lunar Caustic, 148
Mercury, 147
Mushrooms, 151
Opium, 150
Phosphorus, 149
Powdered Glass, 150
Poisonous Fish, 151
Salts of Tin, 148
Saltpetre, 149
Sal-Ammoniac, 149
Spanish Flies, 149
Tobacco, 151
Polypus, 41
Poultice, Charcoal, 160
Yeast, 160
Rye Meal, 160
Psoas Abscess, 117
Pulse, The, 25
Putrid Fever, 34
Sore Throat, 45
Punctured Wounds, 129
Purgative Clyster, 160

Rash, Nettle, 105
Remittent Fever, 30
Reducible Ruptures, 108
Rheumatism, Inflammatory 82
Chronic, 83
Ringworm, The, 105
Round, 67
Rules, General, 15
for Invalids, 21
Ruptures, 108
Irreducible, 109
Reducible, 108
Strangulated, 109
Rye-meal Poultice, 160

Saline Mixture, 156
Scalds, 152
Scald Head, 104
Scaling the Teeth, 250
Scarlet Fever, 95
Small Pox, 101
Strangulated Rupture, 109
Sprains, 124
Spermatic Vein, Enlarged, 80
Spleen, Enlarged, 59
Steatomatous Tumours, 112
Swelling of Tonsils, 44
White, 85
Sick-headache, 191
Symptoms, 192
Medicines, 193
Diet, 196
Drinks, 203
Exercise, 206
Change of Air, 207
Other Cautions, 207
Sight, Dimness of, 39
Simple Inflammatory Fever, 27
Scirrhus, 87
Stings of Bees, &c., 131
Spitting of Blood, 49
Strictures, 77
in the Throat, 46
St. Anthony's Fire, 95
St. Vitus' Dance, 95
Scorbutic Ulcer, 121
Scrofula, 86
Scrofulous Ulcer, 121
Scrotum, Dropsy of, 79
Scudamore's Lotion, 159
Scurvy, 106
Sloughing Ulcer, 120
Stone in the Bladder, 72

Stomach, Cramp in the, 53
Inflammation of, 52
Sun-stroke, 89
Suppression of Urine, 71
Suspended Animation, 143
from Cold, 145
Drowning, 143
Foul Air, 145
Hanging, 145
Syphilis, 77

Tape-worm, The, 67
Tartar of the Teeth, 236
Travellers, Beds for, 19
Cold, 20
Flannel, 17
Hints to, 17
Medicines, 18
Night Air, 20
Towels and Soap, 19
Water, 19
Teeth, The, 212
Caries of the, 230
Diseases of the, 229
Formation, 218
First Dentition, 223
Shedding the, 220
Structure of the, 213
Testicle, Cancer of, 80
Tetanus, 91
Throat, Inflammatory Sore, 44
Putrid Sore, 45
Strictures in, 46
Tobacco Clyster, 160
Tooth-ache, 234
Tongue, Cancers on, 43
Pimples on, 42
Ulcers on, 42
Tonsils, Swelling of, 44
Tumours, 108
Encysted, 113
Fleshy, 112
Steatomatous,
Tympany, 75

Typhus Fever, 32

Ulcers, 119
Fungous, 119
Indolent, 120
Inflamed, 119
Mercurial, of Mouth, 42
" " Tongue, 42
Scorbutic, 121
Scrofulous, 121
Sloughing, 120
Venereal, 121
Urine, Difficulty of, 70
Incontinence of, 72
Immoderate flow of, 73
Suppression of, 71
Uvula, Enlargement of, 43

Venereal Ulcers, 121
Warts, 79
Vinegar Whey, 157
Vomiting of Blood, 56
and Purging, 60

Wine Whey, 157
Whitlow, 115
White Swelling, 85
Worms, 66
White Thread, 67
Wounds, 125
Contused, 129
Incised, 127
Punctured, 129
Poisoned, 130
of the Abdomen, 132
Chest, 132
Ear, 131
Joints, 133
Limbs, &c., 131
Scalp, 131
Tendons, 133
Throat, 132

Yeast Poultice, 160

THE END.

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